SmartWatch® Eco/Eco Compact

Digital Video Recorders

SmartWatch® Eco

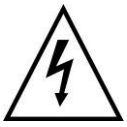
SmartWatch® Eco Compact

Installation Manual

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol is intended to alert the user to the presence of unprotected “Dangerous voltage" within the product's enclosure that may be strong enough to cause a risk of electric shock.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

NOTE: This equipment has been tested and found to comply with the limits for a class digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

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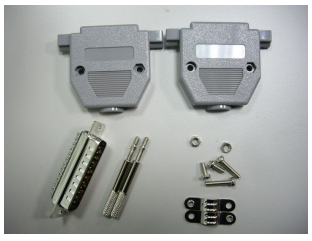
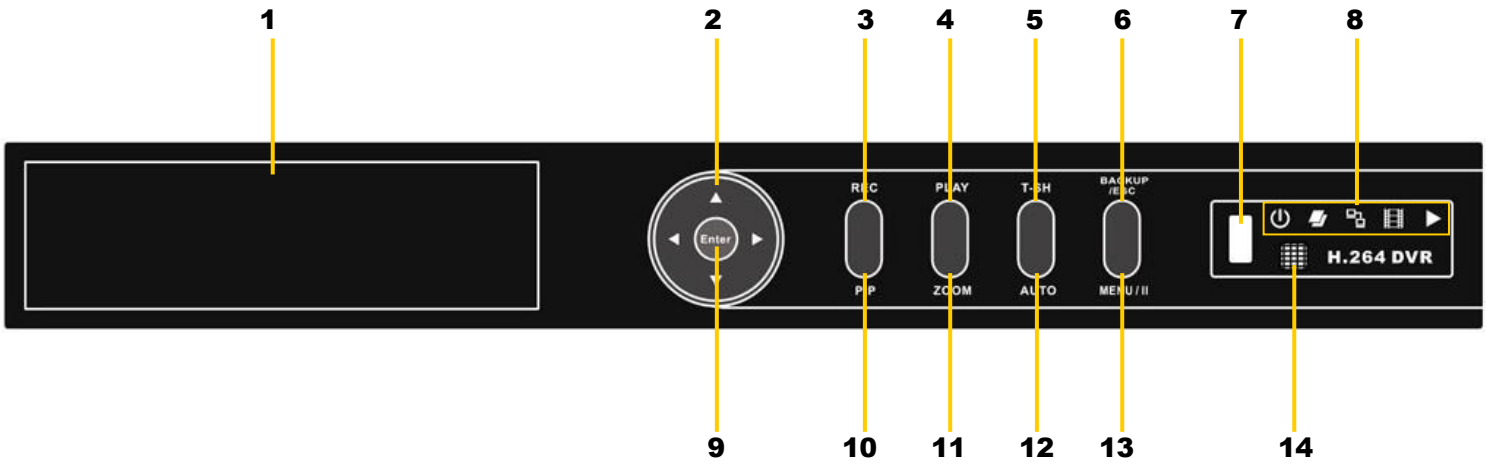


8. 25 Way Connector
(8 / 16 channel models only)

SmartWatch Eco Compact - Front Panel Controls

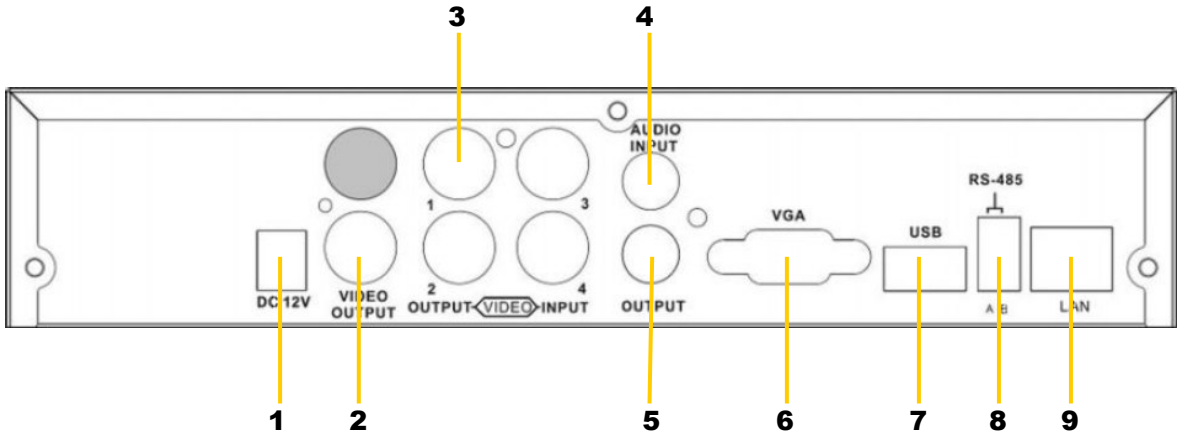
1	Power LED	Power status
2	LAN LED	Connected to the internet *(green)*. Remote user logged in (red).
3	Play LED	DVR is in playback mode
4	Record LED	DVR is recording
5	IR Sensor	Input sensor for the remote control
6	USB Port	USB port

SmartWatch Eco - Front Panel Controls



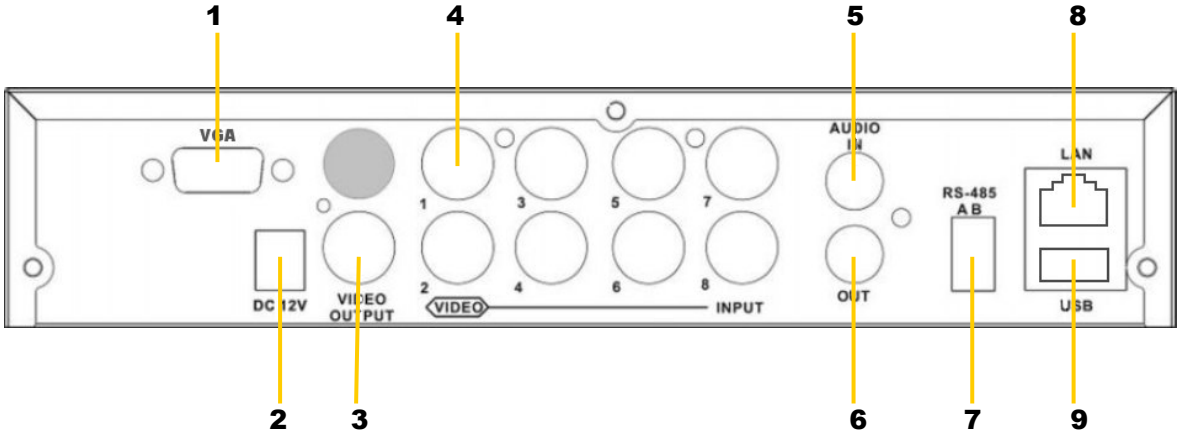
1	DVD Writer	DVD-RW backup device
2	▼ / ■	In Setup mode, press to move cursor down. In Playback mode, press to stop.
	▲ / SLOW	In Setup mode, press to move cursor up. In Playback mode, press to slow down.
	► / ►►	In Setup mode, press to move cursor right. In Playback mode, press to fast forward.
	◄ / ◄◄	In Setup mode, press to move cursor left. In Playback mode, press to rewind.
3	REC	Start or stop recording (depending on schedule setup).
4	PLAY	Start playback (from start of current hour).
5	T-SH	Enter search menu.
6	BACKUP / ESC	In Live mode, press to display the Backup menu. In Setup mode, press to return to previous page.
7	USB Port	USB port
8	LED Display	: Power status.
		: Hard Drive status.
		: Connected to the internet *(green)*. Remote user logged in (red).
		: DVR is recording.
		: DVR is in playback mode.
9	ENTER	In Setup mode, press to enter values. In Playback mode, press to switch between full screen quad, 9-channel & 16-channel displays.
10	PIP	In Live mode, press to display picture in picture.
11	ZOOM	In Live or Playback modes, press to zoom in digitally on images.
12	AUTO	Auto sequence display
13	MENU / **II**	In Live mode, press to display menu. In Playback mode, press to pause playback.
14	IR Sensor	Input sensor for the remote control.

SmartWatch Eco Compact (4 channel) - Rear Panel Connections



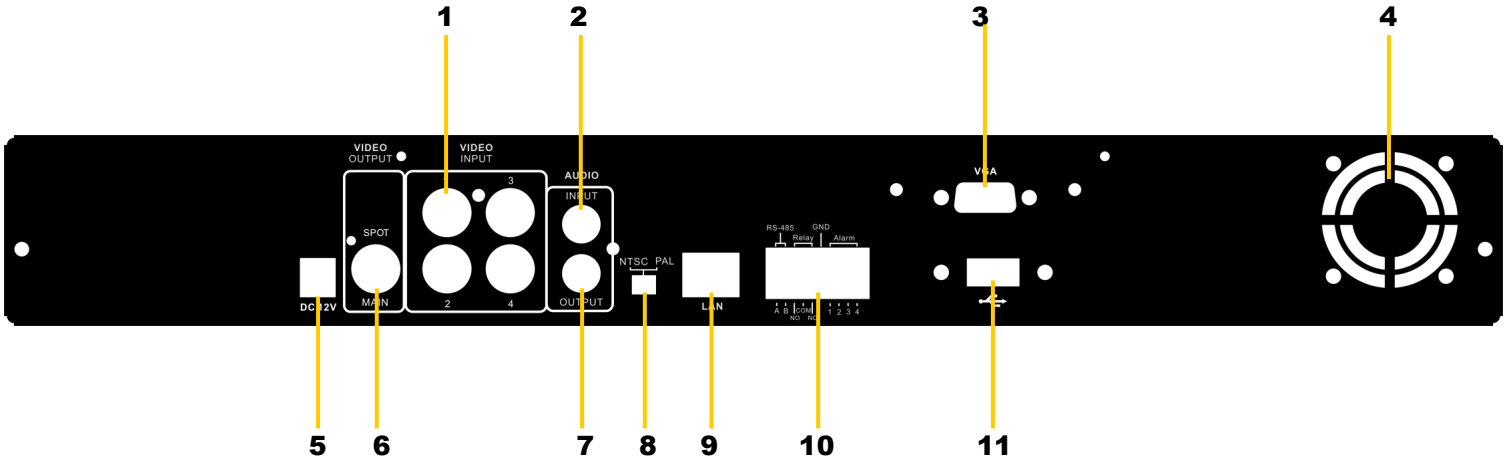
1	DC 12V	DC 12V input
2	VIDEO out	Main/Spot monitor output (BNC)
3	VIDEO in	Camera inputs
4	AUDIO in	Audio input
5	AUDIO out	Audio output
6	VGA	Main monitor output (VGA)
7	USB	USB port for connecting mouse
8	RS-485	RS-485 port for PTZ control
9	LAN	Ethernet port

SmartWatch Eco Compact (8 channel) - Rear Panel Connections



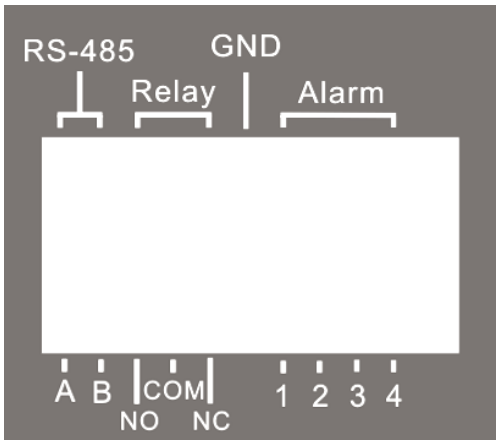
1	VGA	Main monitor output (VGA)
2	DC 12V	DC 12V input
3	VIDEO out	Main/Spot monitor output (BNC)
4	VIDEO in	Camera inputs
5	AUDIO in	Audio input
6	AUDIO out	Audio output
7	RS-485	RS-485 port for PTZ control
8	LAN	Ethernet port
9	USB	USB port for connecting mouse

SmartWatch Eco (4 Channel) - Rear Panel Connections

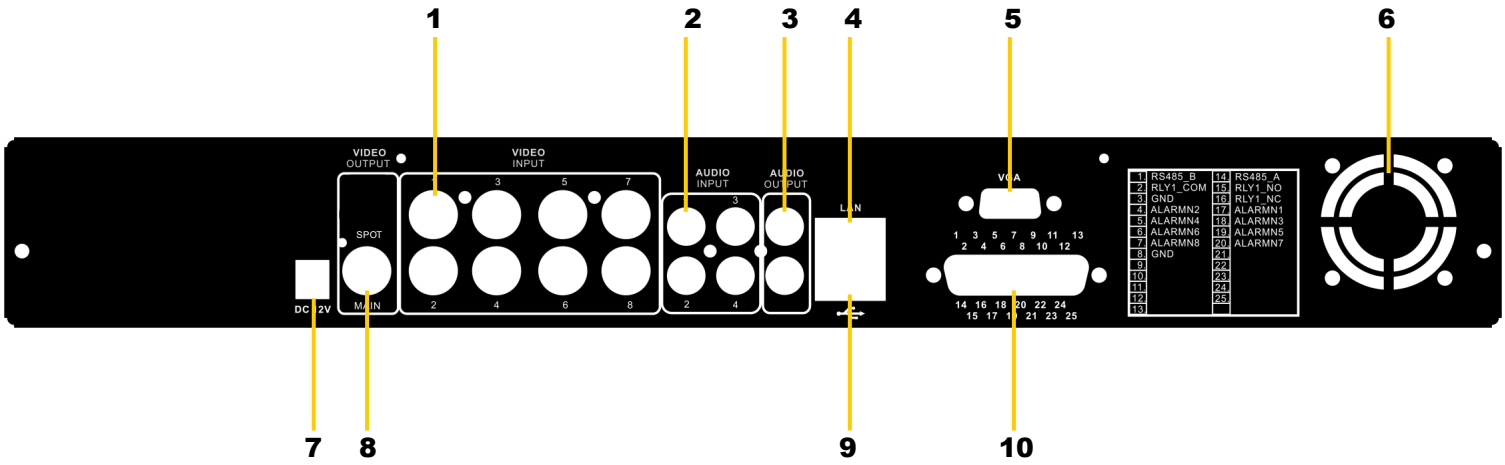


1	VIDEO in	Camera inputs
2	AUDIO in	Audio input
3	VGA	Main monitor output (VGA)
4	Fan	Fan
5	DC 12V	DC 12V input
6	Video output	Main/Spot monitor output (BNC)
7	AUDIO out	Audio output
8	NTSC/PAL	Switch between NTSC and PAL format (make sure the switch is in the PAL position)
9	LAN	Ethernet port
10	External I/O	External I/O port (see below for pin layout)
11	USB	USB port for mouse connection

External I/O Pin Layout

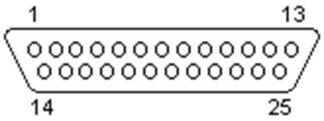


SmartWatch Eco (8 Channel) - Rear Panel Connections



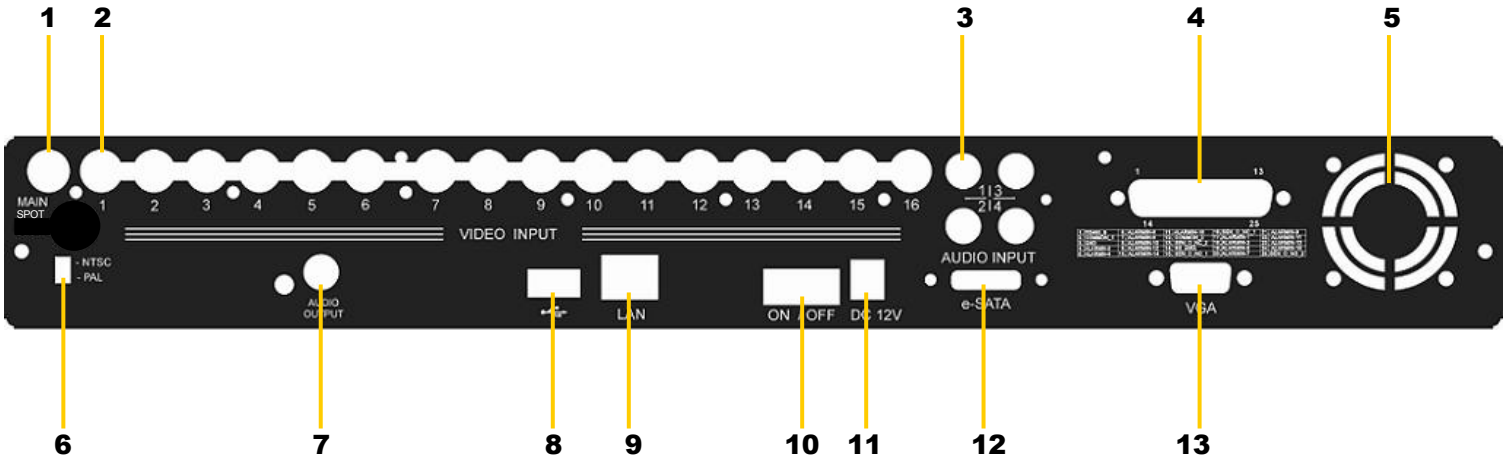
1	VIDEO in	Camera inputs
2	AUDIO in	Audio inputs
3	AUDIO out	Audio outputs
4	LAN	Ethernet port
5	VGA	Main monitor output (VGA)
6	Fan	Fan
7	DC 12V	DC 12V input
8	Video output	Main/Spot monitor output (BNC)
9	USB	USB port for mouse connection
10	External I/O	External I/O port (see below for pin layout)

External I/O Pin Layout



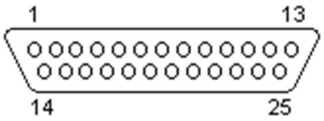
1.	RS485_B	14.	RS485_A
2.	RLY1_COM	15.	RLY1_NO
3.	GND	16.	RLY1_NC
4.	ALARMN2	17.	ALARMN1
5.	ALARMN4	18.	ALARMN3
6.	ALARMN6	19.	ALARMN5
7.	ALARMN8	20.	ALARMN7
8.	GND	21.	
9.		22	
10.		23.	
11.		24.	
12.		25.	
13.			

SmartWatch Eco (16 Channel) - Rear Panel Connections



1	Video output	Main/Spot monitor output (BNC)
2	VIDEO in	Camera inputs
3	AUDIO in	Audio inputs
4	External I/O	External I/O port (see below for pin layout)
5	Fan	Fan
6	NTSC/PAL	Switch between NTSC and PAL format (make sure the switch is in the PAL position)
7	AUDIO out	Audio output
8	USB	USB port for mouse connection
9	LAN	Ethernet port
10	ON/OFF	Power switch
11	DC 12V	DC 12V input
12	e-SATA	External SATA hard disks port for external storage
13	VGA	Main monitor output (VGA)

External I/O Pin Layout



1.	RS485_B	6.	ALARMIN-6	11.	ALARMIN-16	16.	SEN_O_NC_1	21.	ALARMIN-9
2.	COMMON_1	7.	ALARMIN-8	12.	COMMON_2	17.	ALARMIN-1	22.	ALARMIN-11
3.	GND	8.	ALARMIN-10	13.	SEN_O_NC_2	18.	ALARMIN-3	23.	ALARMIN-13
4.	ALARMN-2	9.	ALARMIN-12	14.	RS_485A	19.	ALARMIN-5	24.	ALARMIN-15
5.	ALARMN-4	10.	ALARMIN-14	15.	SEN_O_NO_1	20.	ALARMIN-7	25.	SEN_O_NO_2

Remote Control Functions In Live Mode

Press DVR1 on the remote control to enable it

Button	Description
REC	Start or stop recording (depending on schedule setup).
PLAY	Start playback (from start of current hour).
LOCK	Lock DVR controls (password required).
1,2,3,4...	Select channel.
FREEZE	Freeze picture.
⊞	Displays quad division.
▦	Displays 9-channel division (N/A on 4-channel DVR).
▩	Displays 13-channel division (N/A on 4-channel or 8-channel DVR).
▩	Displays 16-channel division (N/A on 4-channel or 8-channel DVR).
ENTER/MODE	Toggle between cameras and quad mode.
MENU / ▮▮	Enter setup menu.
BK-UP/ESC	Enter backup menu.
SRH	Enter search menu.
MUTE	Mute live audio.
STATUS	Display DVR status.
OSD	Toggle the on-screen display.
ZOOM/ZOOM -	Digital zoom.
PIP/ZOOM +	Enter ‘picture in picture’ mode.
PTZ	Enter PTZ mode (when PTZ cameras are connected).
AUTO	Run camera sequence on main monitor.
DVR 1 / 2 / 3 / 4	Selects DVR to control when used on sites with multiple DVRs.

Mouse Functions In Live Mode

Right-clicking the mouse anywhere on the screen will bring up the following icons

Icon		Description
		Resting the cursor on this icon will bring up the following four menu icons.
		Enter setup menu.
		Enter search menu.
		Enter backup menu.
		Enter PTZ mode (when PTZ cameras are connected).
		Start or stop recording (depending on schedule setup).
		Start playback (from start of current hour).
		Resting the cursor on this icon will bring up the following five display icons.
		Freeze picture
		Enter ‘picture in picture’ mode.
		Digital zoom
		Run camera sequence on main monitor.
		Lock DVR controls (password required).
		Full screen display.
		Quad display.
		9-channel display.
		13-channel display.
		16-channel display.

On-Screen Graphical Icons In Live Mode

Icon	Description
	DVR is recording.
1~4	Live audio is on.
	Live audio is off.
	Motion is detected.
	Sensor is triggered.
	Video loss detected.
	USB device detected.
	DVD burner is detected.
	Connected to the LAN cable.
	Film: Normal recording. Clock: Schedule recording.
	Auto sequence is on.
2X - 8X	Digital zoom level.
	Live screen is paused.
	DVR is locked.
	PTZ.
	HDD status (99% used).
	Current time display (can be repositioned)

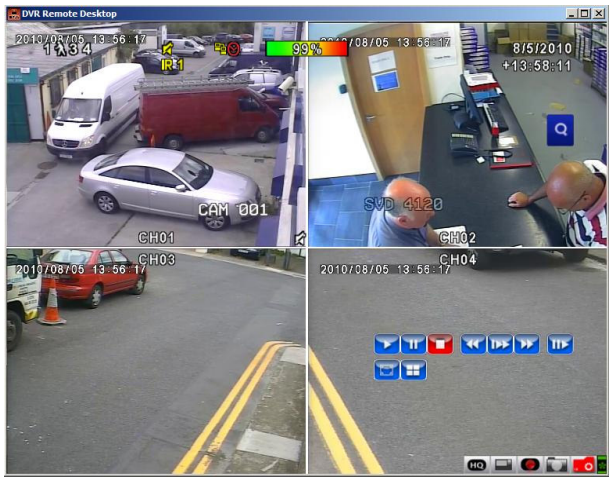
On-Screen Graphical Icons In Live Mode When Connected Through 'DVR Remote Desktop'

Icon	**Description**
	Transmit at high / low quality.
	Full screen / half screen display.
	Record locally.
	Take snap shot.
	Set up path for saving recordings and snapshots.
	Enable / disable shortcut toolbar.

Playback Mode

To enter playback mode:

- Press PLAY on the front panel
- Press PLAY on the remote control
- Click when using the mouse



Remote Control Functions In Playback Mode

Button	Description
ENTER/MODE	Switch between full screen, quad, 9-channel and 16-channel displays
MENU / ❚❚	Pause playback
PLAY	Play back at normal speed
▲ / SLOW	Slows playback by 1/2, 1/4, 1/8 or 1/16
◄ / ◄◄	Rewind playback at 2X, 4X 8X, 16X, 32X and 64X speeds
► / ►►	Fast forward playback at 2X, 4X 8X, 16X, 32X and 64X speeds
▼ / ■	Stop playback

Mouse Functions In Playback Mode

Icon	Description
	Rewind
	Fast forward
	Play / pause
	Slow playback
	Stop playback
	Playback frame by frame
	Full screen display
	Quad display
	Digital zoom in playback

To display a single camera on the full screen in playback mode, double left click it on the multi-camera display. To revert back to the multi-camera display, double left click again.

PTZ Control

To enter PTZ mode:

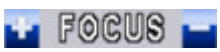
- Press PTZ on the remote control
- Click when using the mouse

Remote Control Functions In PTZ Mode

Button	Description
▲ / SLOW	Move PTZ up.
▼ / ■	Move PTZ down.
◄ / ◄◄	Move PTZ to the left.
► / ►►	Move PTZ to the right.
ZOOM +	PTZ zoom-in.
ZOOM -	PTZ zoom-out.
FOCUS +	PTZ focus-in.
FOCUS -	PTZ focus-out.
IRIS +	PTZ iris-open.
IRIS -	PTZ iris-close.
TOUR	Activate PTZ preset tour (when preset is programmed).
PRESET	To save a preset location, move the camera to the desired scene, press PRESET and a number key. This will save this scene as the preset number selected e.g. to save a scene as Preset 1, press 'PRESET' and '1'.
PLAY + NUMBER	To call a preset, press Play and the number of the desired preset.

Mouse Functions In PTZ Mode

When the PTZ icon is displayed in the upper left corner of the screen, the function icons will be displayed in the lower right corner of the screen. These can be dragged around the screen using the mouse.

Icon	Description
	Exit PTZ Mode and return to Live Mode.
	Preset number N (1~64).
	Go to preset number N.
	Set current PTZ location at preset number N.
	Move PTZ in 360°
	PTZ zoom in; PTZ zoom out
	PTZ focus in; PTZ focus out.
	PTZ IRIS open; PTZ IRIS close.

Main Menu Setup

To enter the DVR menus, a user name and password are required. The default password for the 'Admin' is '**123456**'.

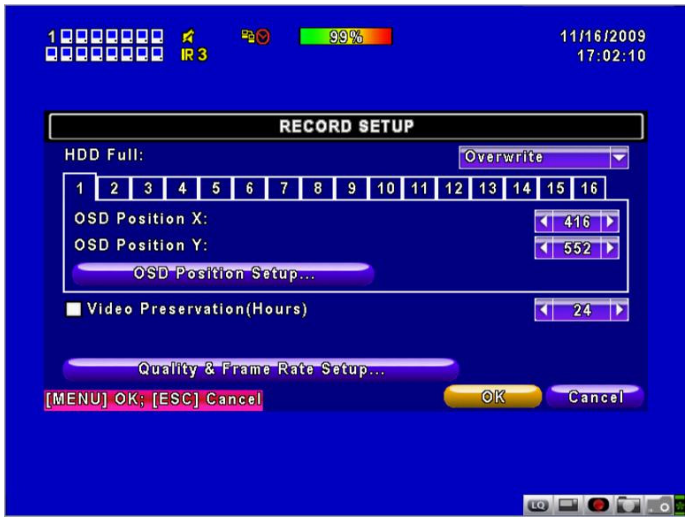
Virtual Keyboard

Item	Description
	Switch between capital and small letters.
	Switch between numbers and letters.
	Press to cancel the setup, and re-choose the login account.
	Delete the last character.
	Press to enter the password. If the password is correct, the required menu will open.
	Space key.

To navigate menus using remote control.

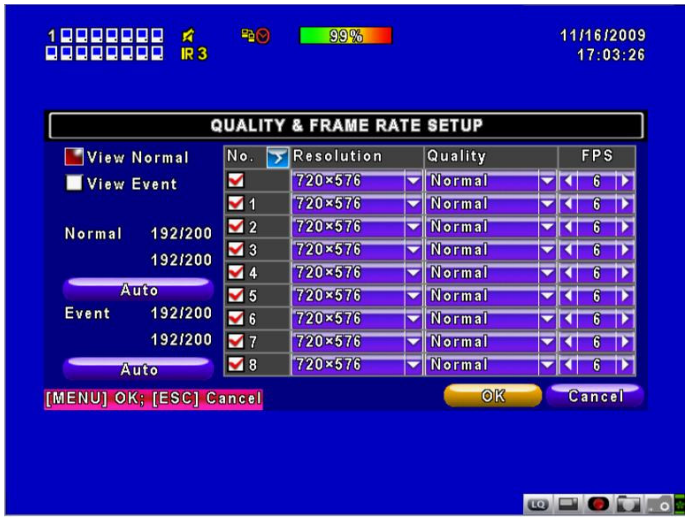
Item	Description
◄►	Switch to different options under one item.
▲▼	Switch to different items.
MENU	Save settings and return to LIVE mode.
ESC	Back to upper level of menu without saving.
ENTER	Enter the menu, or display virtual keyboard.

1. Record Setup



Item	Description
HDD Full	**Stop -** When the HDD is full the unit will stop recording. **Overwrite** - The DVR will overwrite, when the HDD is full (default setting).
OSD position X	X position for OSD.
OSD position Y	Y position for OSD.
OSD position setup	Set the position for time and date in playback.
Video Preservation	Set up the video preservation period. Recorded video will be deleted automatically after the selected preservation period (in hours).
Quality & Frame Rate Setup	Set up the recording resolution, quality and frame rate per camera in normal and event modes.

1.1. Quality & Frame Rate Setup



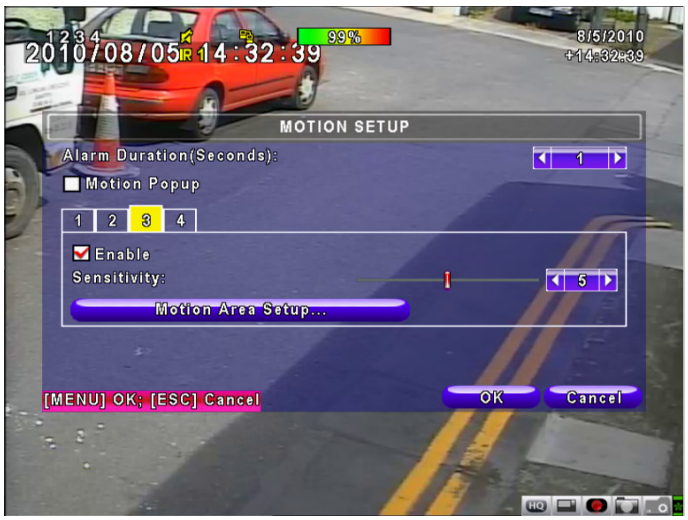
Note: 4ch, 8ch and 16ch DVR will display differently.

Item	Description
Normal setup / event setup	Select mode to assign frame rate.
Resolution	Select recording resolution: PAL:352X288,704X288,704X576.
No.	Enable/disable selected channel.
Quality	Select recording quality: Lowest/ Low/ Normal/ High/ Highest.
FPS	Select recording frame rate.
Auto	Automatically divides the maximum frame rate across cameras connected.

2. Event Setup

Item	Description
Motion Setup	Enter to set up motion detection.
Sensor Setup	Enter to set up sensor detection.

2.1. Motion Setup



Item	Description
Alarm Duration (Seconds)	The alarm time in seconds when motion is detected (buzzer / relay).
Motion Popup	Enable/Disable popup function all channels (across channels). When motion is detected in LIVE mode, the detected channel image will pop up in full screen display.
Enable	Check the box to Enable/Disable motion detection for each channel.
Sensitivity	Set up Sensitivity value 1 to 10 for each channel. The lower value, the higher the sensitivity it will be.
Motion Area Setup	Enter to setup motion detection area.

2.1.1. Motion Area Setup

The screen is divided into 16x21 divisions: areas of detection are transparent, masked areas are in red. At default, all areas are selected.

Item	Description
Mask Mouse Selection	Use mouse to select area.
All Area Detection	Select the full screen.
Mask All Area	Deselect all areas.
Continue	Continue setup.
Exit & Save	Save setup and exit.
Exit & Discard	Cancel.

2.2. Sensor Setup

Item	Description
Sensor Popup	Check the box to Enable/Disable popup. When a Sensor is detected in LIVE mode, the detected channel image will pop up in full screen.
All Off	Disable all sensors.
All Low	Set all sensor polarity low.
All High	Set all sensor polarity high.
Sensor Polarity	Click or press ▼ to select between HIGH, LOW voltage for triggering sensor detection or OFF to turn off polarity for each channel **Low** Polarity: Sensor has not been triggered. When connected, sensor will be turned on. **High** Polarity: Sensor has been triggered. When connected, sensor status will be turned off. **Off**: Sensor is deactivated, and will not be turned on/off.

Note: 4CH DVR will display 4 channels and 8CH DVR will display 8 channels.

3. Schedule Setup

Enter to configure recording schedule.

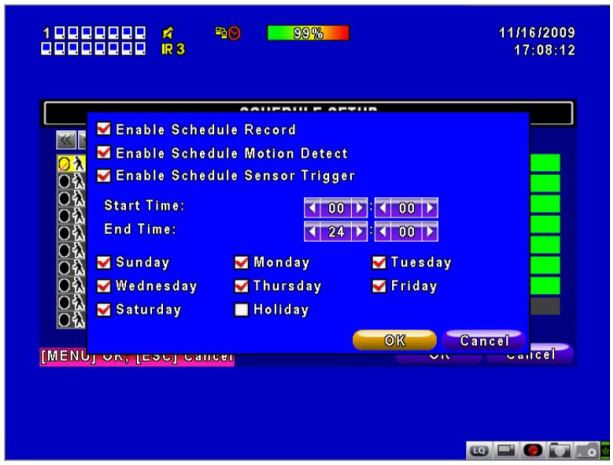
There are a total of 50 schedules

You can configure 50 holidays in total

Item	Description
Page	Each page provides 10 schedules for setup. 5 pages in total.
Holiday Setup	Enter to setup holiday, up to 50 days, other than weekends.
View Event/ Motion/ Sensor Setup	Normal/ Motion / Sensor Setup – an overview of the schedule configuration.

3.1. Schedule Record Setup

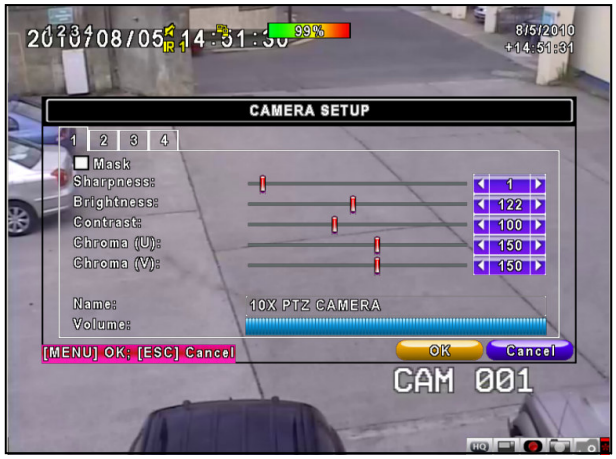
Click on the schedule time. The schedule menu will be displayed. You can now customize the schedule.



3.2. Holiday Setup

You can select dates for holiday recording.

4. Camera Setup



Item	Description
1~16	Select channel to configure.
Mask	Enable/Disable mask function in LIVE mode.
Sharpness	Adjust Sharpness (Default – 1).
Brightness	Adjust Brightness (Default – 128).
Contrast	Adjust Contrast (Default – 100).
Chroma(U)/(V)	Adjust Chroma (Default – 128).
Name	Enter camera name.
Volume	Adjust audio volume.

5. Account Setup

The default user name and password is “admin” and “123456”. Another four users can be added and permissions customized.

Item	Description
No.	Check to activate the user’s account.
Username	Set up username.
Password	Set up password.
Permissions	Set up Permissions.
Change Admin Password	Change administrator’s password.
Picture	Change user’s picture.

5.1. Permission Setup

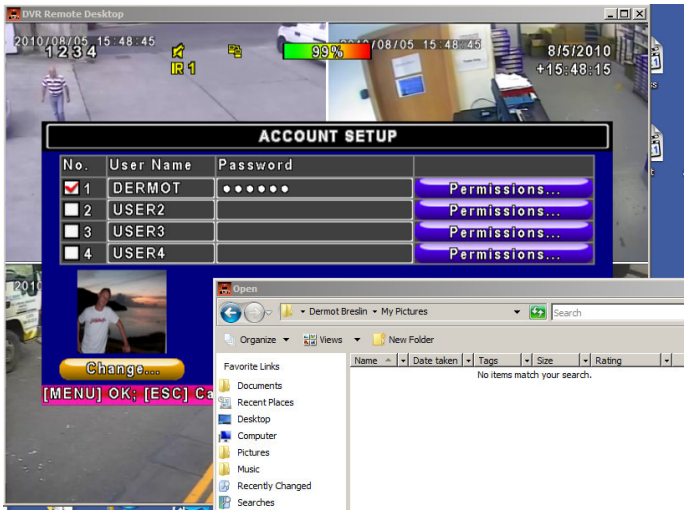
Users can be configured with different permissions.

Option	Description
Password Expiry Date	Set up expiry date for password.
Setup	Allow access to setup menu.
PTZ	Allow PTZ control.
Utility	Allow access to utility menu.
Network	Allow remote access.
Playback	Allow access to search / playback.
Backup	Allow access to backup.
Remote & Playback Mask	Mask cameras in local or remote playback.

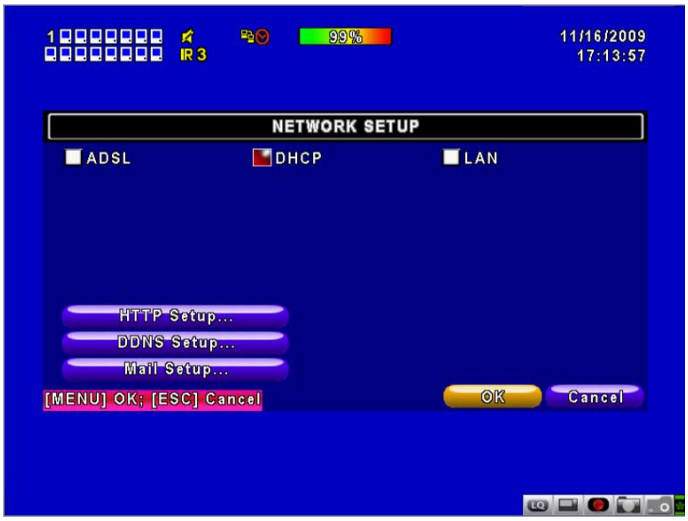
A reboot may be required when completed to allow changes take effect.

5.2. User Picture Setup

A user can select picture to be displayed when logging in (locally or remotely). This can be configured only via DVR remote desktop.



6. Networking Setup



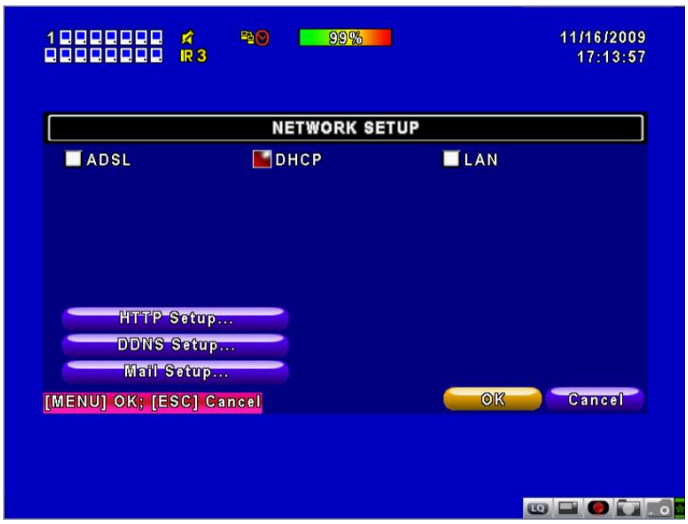
Item	Description
Connect type	Setup network connection: (**DHCP**-**LAN**-**ADSL**).
HTTP Setup	Enter to set up HTTP.
DDNS Setup	Enter to set up DDNS.
Mail Setup	Enter to set up email.

6.1. Connecting To A Network

There are three ways to connect to the network as follows.

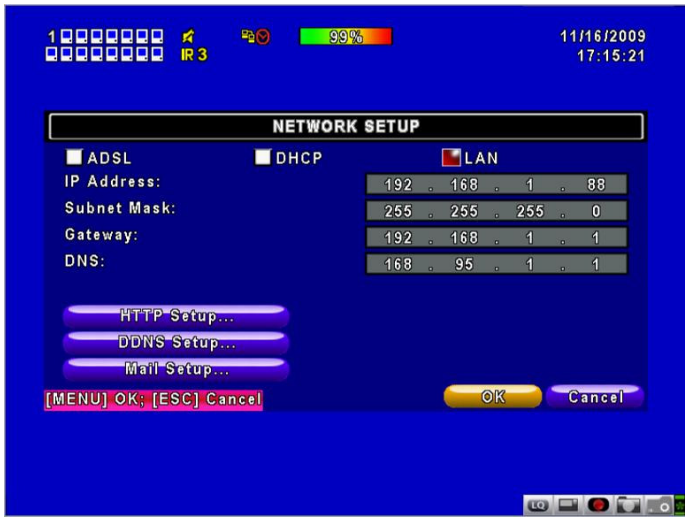
6.1.1. DHCP

When DHCP is selected, IP address will be assigned by the DHCP server automatically.



6.1.2. LAN

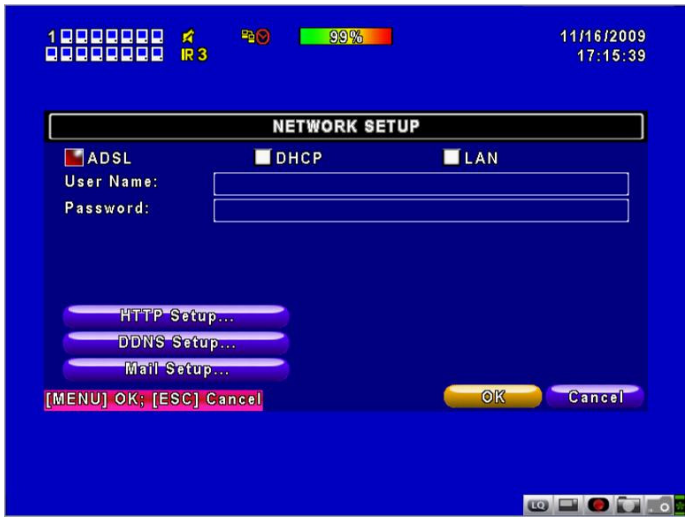
Select LAN for network connection, the following information is required.



Item	Description
IP Address	Enter IP address provided by ISP.
Subnet Mask	Enter IP address of Subnet Mask provided by ISP.
Gateway	Enter IP address of Gateway provided by ISP.
DNS	Enter DNS address provided by ISP.

6.1.3. ADSL

For ADSL connectivity, the following information is required.



Item	Description
User Name	Enter user name provided by ISP.
Password	Enter password provided by ISP.

6.2. HTTP Setup

Item	Description
Enable HTTP Server	Check to enable the HTTP server. Users can remotely access the DVR over the network if the HTTP function is activated.
Port	Enter a valid port value from 1 up to 65000. The default value is 80.
Auto	Assign each channel with its maximum transmission FPS.
No.	Enable channel.
Quality	Set transmission quality.
FPS	Set up transmission FPS.

6.3. DDNS Setup

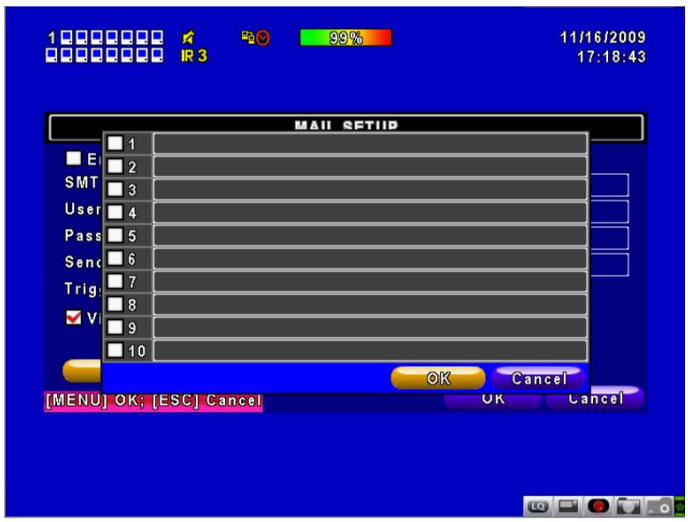
Item	Description
Enable DDNS	Enable / Disable DDNS function.
DDNS Server	Select the registered SMTP Server: **ez-dns - I-DVR.NET* - DYNDNS.ORG - NO-IP.ORG - 3322.ORG**
Host Name	Enter host name.
User Name	Enter user name.
Password	Enter password.

* For more detailed I-DVR.NET operation instruction, please refer to appendix 1.

6.4. Mail Setup

Configure email notification on video loss, sensor trigger or motion detection.

Item	Description
Enable E-mail Notification	Check the box to enable/disable E-mal Notification function.
SMTP Server	Enter SMTP Server name (varies according to IP).
User Name	Enter User Name.
Password	Enter Password.
Sender E-mail	Enter sender email address.
Trigger Event	Select events to transmit E-mail notifications: Motion, Sensor and Vloss (Video Loss).
Receiver E-mail	Set up to 9 e-mail addresses that require notification.



7. PTZ and RS485 Setup

Configure PTZ cameras.

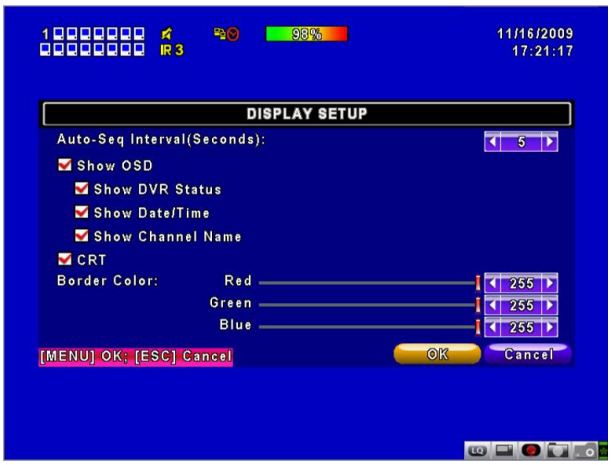
Item	Description
Enable PTZ	Enable/Disable PTZ function per channel.
Protocol	Select the protocol.
PTZ ID	Set the PTZ ID.
Baud Rate	Select the Baud Rate: 2400, 4800, 9600,19200
RS-485 ID	For future development.
RS-485 Baud Rate	For future development.
Keyboard	For future development.

Note: 4CH DVR will display 4 channels and 8CH DVR will display 8 channels.

8. System Setup

Item	Description
DVR Name	DVR name to be displayed when remotely connected.
DVR Location	The location of the DVR will be shown when users login from a remote location.
Language	DVR language.
Remote Control ID	Default ID is 1. Please press DVR1 on the remote control to enable it. When more than one DVR is installed on the same site, they can be numbered from 1 to 4.
Display Setup	Enter Display set up.
Date/Time Setup	Enter Date/Time set up.
Device Setup	Enter Mouse Speed, Buzzer & Relay.
Spot Setup	Enter Spot Monitor configuration.

8.1. Display Setup



Item	Description
Auto-Seq Interval	Set up duration time in seconds for the interval between channels in Auto-Seq mode.
Show OSD	Turn On / Off the OSD display.
Show DVR Status	Turn On / Off the DVR status display.
Show Date/Time	Turn On / Off the date and time display.
Show Channel Name	Turn On / Off the channel name display.
CRT	Enable when using CRT monitors.
Border Color	Set up the color of border (Red, Green, Blue).

8.2. Date / Time Setup

Item	Description
Hour Format	12 / 24 Hour display.
Date Format	MM-DD-YY / DD-MM-YY / YY-MM-DD.
Date/Time Position	Select the position for Date and Time.
Change Date & Time	Set up DVR Date and Time.
Time Zone Setup	Set up GMT and Daylight Saving Time.
Internet Time Setup	Set up DVR automatic synchronization with internet time server.

8.2.1. Change Date & Time

Set the Date and Time manually.

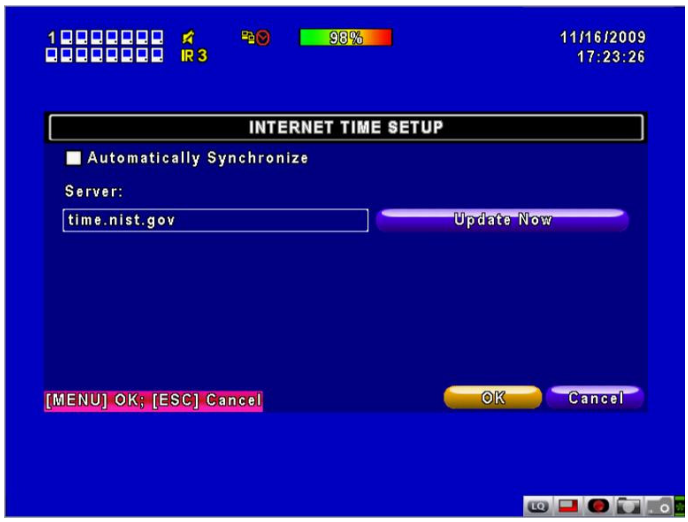
8.2.2. Time Zone & Daylight Saving Time Setup

Set up time zone and daylight saving times.

Item	Description
Select Time Zone	Enter to modify GMT from GMT- 13 to GMT+ 13.
Daylight Saving Time	Turn on/ off Daylight Saving Time.

8.2.3. Internet Time Setup

Synchronize your DVR time with the internet time server.



Item	Description
Automatic Synchronization	Check to enable DVR automatic synchronization function. When this is selected, the DVR will automatically synchronize the time upon rebooting or every 24 hours after booting.
Update Now	Perform synchronization with internet time server now.

8.3. Buzzer & Relay Setup

Item	Description
Key Tone	Enable/Disable keystrokes.
Buzzer	Enable/Disable buzzer operation on sensor, motion and video loss (Video Loss) events.
Relay	Enable/Disable the RELAY OUTPUT on sensor, motion and video loss events.

8.4. Spot Setup

Select to enable spot monitor option

Select duration each channel should be displayed

Select channels to be displayed

Item	Description
Enable Spot	Enables spot monitor option on BNC video output of DVR
Auto-Seq Interval (Seconds)	The duration of time in seconds for the interval between channels under SPOT mode.
Skip Video Loss Channel	Skip channel on video loss.
Channels	Select the channels to be included in the spot monitor sequence

Note: If the menus are not accessible on the spot monitor, click the 'X' icon at the top of the screen to make them accessible.

9. Utility Setup

Item	Description
HDD Initialization	Enter this menu to format (initialize) HDD. Please note that all recorded data will be deleted.
USB Initialization	Enter this menu to format / initialize a USB flash drive.
System Recovery	Restore system default values.
Reset System Events	This will clear the event log.
Copy Setup to USB	Copy configuration to a USB drive when completed. There will be a file named 'sdvr_conf.dat' on your USB.
Download Setup from USB	Download configuration from a USB drive to the DVR.
Upgrade	Upgrade the DVR through a USB flash drive. Note: Recording backup and setup configuration should be stopped before upgrading. The system will reboot automatically when the upgrade is completed.

Notice! DO NOT TURN OFF POWER OR UNPLUG USB DEVICE DURING THE UPGRADE
as it may cause incomplete firmware upgrade and damage to the DVR.

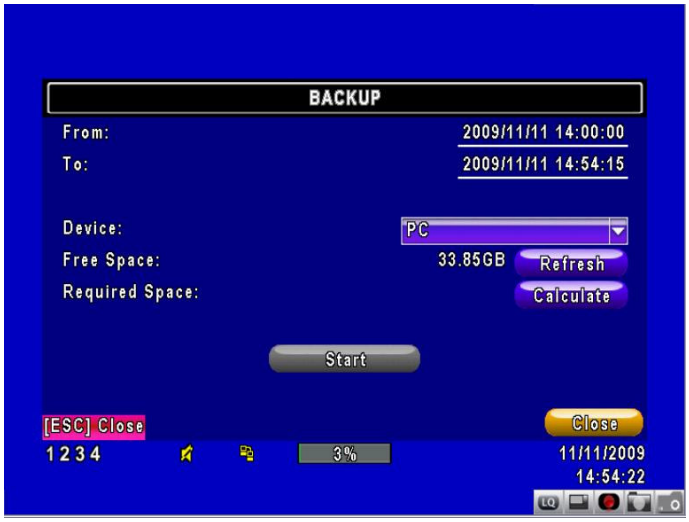
10. Diagnostic

Item		Description
Version		Displays the current firmware version.
IP		Displays the DVR's IP address.
MAC		Displays the MAC Address of DVR.
HDD Status	No.	Displays the HDD number.
	Volume	Displays the HDD Capacity.
	Used Rate	Displays the percentage of space used on HDD.
	Status	Displays the HDD status. **USING** means the HDD is recording.
	Format Time	Displays the date the HDD was last formatted.

Backup Mode

To enter backup mode:

- Press BACKUP / ESC on the front panel
- Press BK-UP / ESC on the remote control
- Click when using the mouse



Data can be backed up to a USB storage device or to a CD/DVD (on supported models)

Item	Description
From	Enter the required start time.
To	Enter the required end time.
Device	Select USB, or DVD as the backup device.
Free Space	Displays the available space in your backup device.
Refresh	Recalculate the available space in your backup device.
Required Space	Space required for backup.
Calculate	Calculate the size of backup file.
Start	Start backup operation.

Note: Be sure to calculate the size of backup file BEFORE beginning the backup. Do not unplug the USB device or turn off the DVR during the backup process. This will cause errors.

Search Mode

Event Search:

The DVR will automatically log events with event type, time and additional information (e.g. channel, user). If there is recorded data for an event, a yellow signal ( ) will be displayed on the left side of event information. Press 'Enter', or left click your mouse to playback the recorded data.

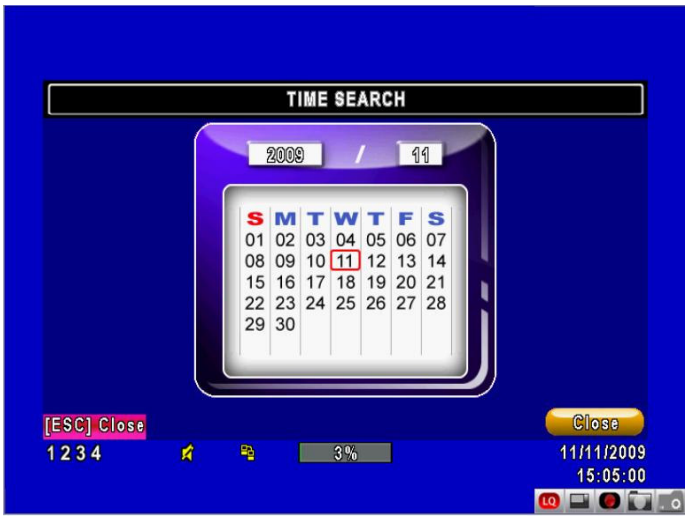
Item	Description	
Date/Time	Date/time when the event occurred.	
Event Type	Event type, defined as follows:	
	Motion	Motion detected
	Sensor	Sensor detected
	Video Loss	Video loss
	Remote Login	User logged in over the network
	Remote Logout	User logged out over the network
	Power On	DVR powered on
	HDD Full	HDD full
	HDD Error	HDD error detected
	Reboot	DVR rebooted
Info	The channel on which the event occurred or the user responsible for event.	

Event Search - Criteria:

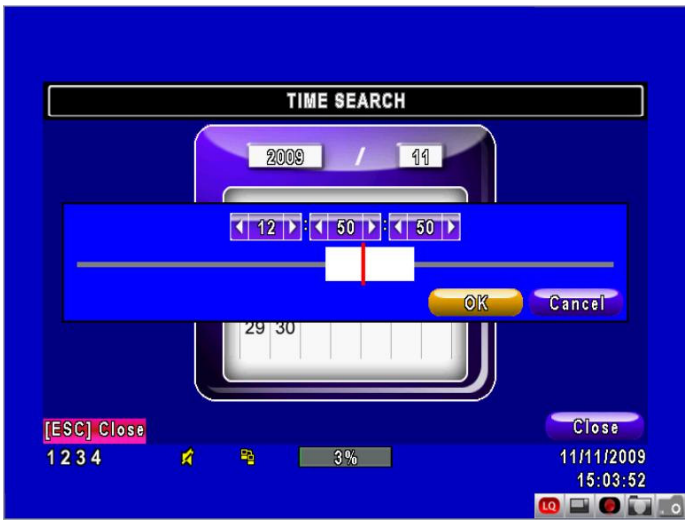
It is also possible to filter the search results by selecting the criteria icon. The search can be filtered by date, time, event type and channel.

Time Search:

Time search will allow you to search for data from a specific date and time. Press 'Enter' or left click on the desired date (note that dates with recorded data are marked with a red square).



The time bar will now load.



Now enter the required time. Click OK and the recorded data will start playing.

File Search:

When a USB device is connected to the DVR, the file search option can be used to search through any recorded data that has been backed up to the USB device.

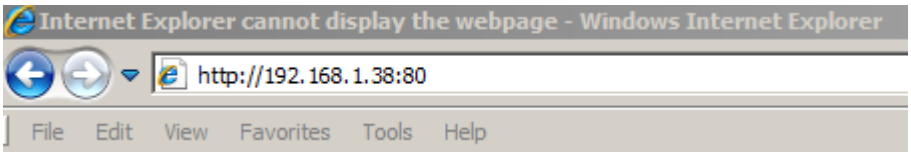
Select the required file to search through the recorded data.

Remote Software Installation and Setup

1. Software Installation

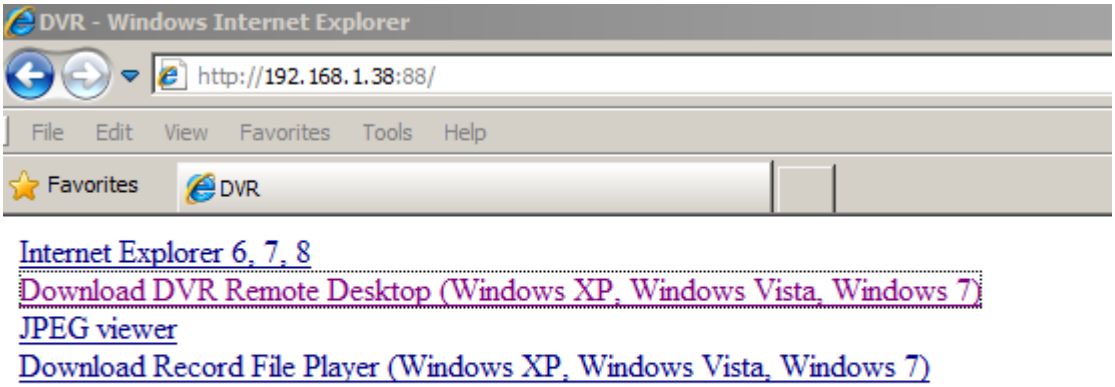
'DVR Remote Desktop' will allow you to remotely monitor, playback, backup and configure the DVR .
Note: The operating systems currently supported are Windows XP, Windows Vista, and Windows 7.

Step One: The software can be installed from the CD provided or else when connected to the DVR via Internet Explorer.

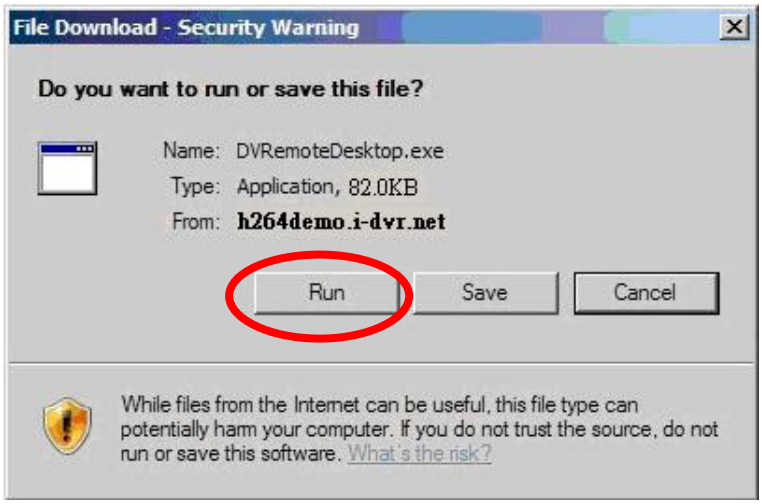

Internet Explorer cannot display the webpage - Windows Internet Explorer
http://192.168.1.38:80
File Edit View Favorites Tools Help

Step Two: Windows will display the following window. Please enter the user name and password. The default user name and password is **admin/123456**.

Step Three: Click on the link to start downloading the DVR remote desktop.

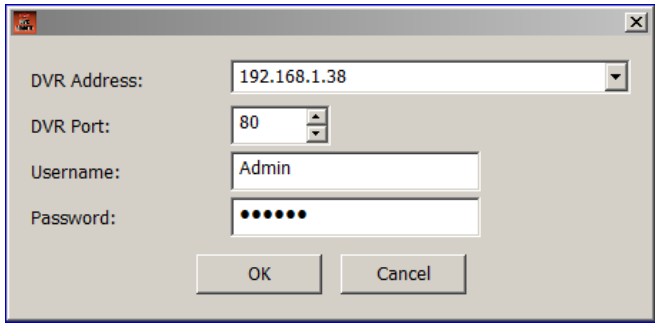

DVR - Windows Internet Explorer
http://192.168.1.38:88/
File Edit View Favorites Tools Help
Favorites
DVR
Internet Explorer 6, 7, 8
Download DVR Remote Desktop (Windows XP, Windows Vista, Windows 7)
JPEG viewer
Download Record File Player (Windows XP, Windows Vista, Windows 7)

Step Four: Run or save the DVR remote desktop software.


File Download - Security Warning
Do you want to run or save this file?
Name: DVRemoteDesktop.exe
Type: Application, 82.0KB
From: h264demo.i-dvr.net
Run
Save
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not run or save this software. What's the risk?

Step Five: When the software is installed, the following icon will be displayed on the desktop:

Step Six: When running the software the following login screen is displayed. Enter the DVR IP address, the port (default: 80), the user name (default: admin) and password (default: 123456).

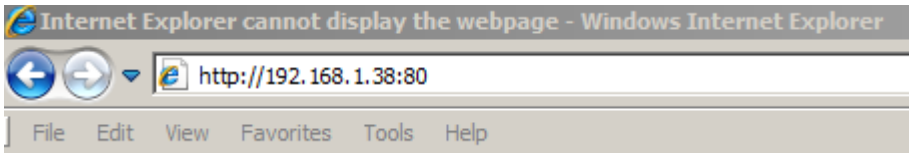


You are now connected to the DVR.

Note - 4CH DVR will display 4 channels and 8CH DVR will display 8 channels.

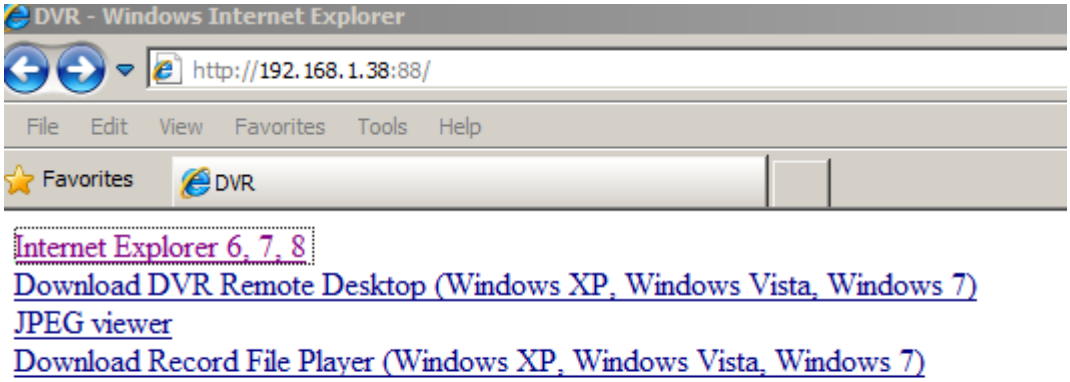
2. How to Remotely Monitor, Playback, Backup and Configure via Internet Explorer

Step One: Enter the IP address of the DVR in your browser.


Internet Explorer cannot display the webpage - Windows Internet Explorer
http://192.168.1.38:80
File Edit View Favorites Tools Help

Step Two: Enter the user name and password. Default user name and password is **admin/123456.**

Step Three: Click on “Internet Explorer 6, 7, and 8”to start downloading the software.


DVR - Windows Internet Explorer
http://192.168.1.38:88/
File Edit View Favorites Tools Help
Favorites
DVR
Internet Explorer 6, 7, 8
Download DVR Remote Desktop (Windows XP, Windows Vista, Windows 7)
JPEG viewer
Download Record File Player (Windows XP, Windows Vista, Windows 7)

Note - There will be an IE connection security issue when clicking this link for the first time. Please refer to appendix 2 for Remote Monitoring IE ActiveX Control Installation instructions.

Step Four: DVR images appear.

3. System Requirements for DVR remote desktop

CPU	Intel Pentium 4 or above.
OS	Microsoft Windows 7; Windows Vista; Windows XP SP2 or above.
RAM	512MB or above.
VGA Card	Needed to support DirectX9.0 or above (see note 1)
Others	DirectX 9.0 or above.

Note 1:
VGA cards that support DirectX9.0:

NVIDIA: Geforce FXseries, Geforce 6series, Geforce 7series, Geforce 8series, Geforce 9series, Geforce 200series, etc. Or visit:http://en.wikipedia.org/wiki/Comparison_of_Nvidia_graphics_processing_units

ATI: Radeon R300series, Radeon R400series, Radeon R500series, Radeon R600series, Radeon R700series, Radeon HD 3xxx IGPseries, Mobility Radeonseries (9500 above), Mobility Radeon Xseries, Mobility Radeon HDseries, or FireGL Vseries etc. Or visit: http://en.wikipedia.org/wiki/Comparison_of_ATI_graphics_processing_units

SiS: SiS 67Xseries, or SiS 77Xseries etc. Or visit: http://www.sis.com/support/support_compare.htm

Intel: 91Xseries, 94Xseries, 96Xseries, G3Xseries, or G4Xseries, etc. Or visit: http://en.wikipedia.org/wiki/Intel_GMA

Specifications

			Eco Compact 4 Channel	Eco Compact 8 Channel	Eco 4 Channel	Eco 8 Channel	Eco 16 Channel
Product Code			I23SWEC04F	I23SWE08F	I23SWE04	I23SWE08	I23SWE16
Video	Inputs		4	8	4	8	16
	Outputs		1 x BNC, 1 x VGA				
Audio	Inputs		1 x RCA		4 x RCA		16 x RCA
	Outputs		1 x RCA		2 x RCA		2 x RCA
Sensor In (NO, NC) / Relay Out			N/A		4 sensor in, 1 relay out	8 sensor in, 1 relay out	16 sensor in, 2 relay out
USB			2 x USB 2.0				
Operating System			Embedded Linux OS				
Account			1 administrator + 4 users				
Display	Speed		100fps	200fps	100fps	200fps	400fps
	Resolution (Pixels)		720 x 576				
	Split Screen		1, 4, SEQ	1, 4, 8, SEQ	1, 4, SEQ	1, 4, 8, SEQ	1, 4, 9, 13, 16, SEQ
	Mode		Zoom (2x ~ 8x), PIP, Auto SEQ				
Recording	Compression		H.264 ASP (internet transmission H.264)				
	Dual Stream Resolution (Pixels)	Main (Recording)	704 x 576, 704 x 288, 352 x 288				
		Sub (Network)	352 x 288				
	Picture Quality		5 levels (highest, high, normal, basic, below basic)				
	Mode		Manual, Motion, Schedule		Manual, Motion, Sensor, Schedule		
	Speed		100 fps (704 x 576), 100 fps (704 x 288), 100 fps (352 x 288)	100 fps (704 x 576), 200 fps (704 x 288), 200 fps (352 x 288)	100 fps (704 x 576), 100 fps (704 x 288), 100 fps (352 x 288)	100 fps (704 x 576), 200 fps (704 x 288), 200 fps (352 x 288)	100 fps (704 x 576), 200 fps (704 x 288), 400 fps (352 x 288)
	Pre-Alarm		10 sec				
	Post-Alarm		1 ~ 60 sec				
	Water Mark		Yes				
Playback	Display		1, 4	1, 4, 8	1, 4	1, 4, 8	1, 4, 8, 16
	Search Mode		Date, time, event, camera		Date, time, event (motion/sensor), camera		
	Zoom		Digital (2x ~ 8x)				
	Snapshot		Yes				
	Speed		Normal, REW & FF (recorded speed x 2, x 4, x 8, x 16, x 32, x 64), frame to frame, pause				
	Device		Internal HDD				
Network	Network Interface		Ethernet				
	Protocol		TCP/IP, SMTP, HTTP, DHCP, PPPoE (ADSL), NTP		TCP/IP, SMTP, HTTP, DHCP, PPPoE (ADSL)		
	Serial Communication		RS-485				
	Application		Windows XP/Vista/7 (PC client system)				
	Remote Software		Licensed application software, IE browser				
	CMS		Unlimited (depends on bandwidth)				
	3G / GPRS		Symbian, Windows Mobile, JAVA, Blackberry, iPhone, Android				
	Event Notification		E-mail				
Backup	Interface		USB 2.0 or DVD-R				
	Audio Backup		Yes				
	Backup Device		Network backup / USB flash drive / USB DVD-R		Network backup / USB flash drive / USB DVD-R / Internal DVD-R		
Alarm	Motion Detection		Per channel				
			Sensitivity: 10 levels for each channel				
			Area: Programmable motion detection area for each camera individually				
	Alarm Hold Time		1 ~ 60 sec				
	Event Log		Up to 10,000 events (motion, video loss, power on, remote login, logout, HDD error, HDD full)		Up to 10,000 events (sensor, motion, video loss, power on, remote login, logout, HDD error, HDD full)		
OSD & DVR Control	GUI		16-bit true colour		32-bit true colour		
	Multi-Language		English, Traditional Chinese, Others		18 languages (English, Traditional Chinese, Simplified Chinese, Japanese, German, French, Spanish, Portuguese, Italian, Russian, Greek, Korean, Polish, Hungarian, Hebrew, Thai, Dutch, Persian)		
	USB Mouse		Yes				
	Touch Panel		Supports USB touch panel				
	Remote Controller		IR remote control				
	Upgrade		Via USB / network				
	Key Function		N/A		Front panel		
	Camera Title		Multi languages				
	Pan/Tilt Camera		Control from RS485 interface (Pelco P, Pelco D, Samsung, LG, LiLin)				
Others	Internal HDD		Supports 1 SATA HDD				Supports up to 2 SATA HDDs
	External HDD		N/A				1 x E-SATA port
	Auto switching		Switching time: 1 ~ 999 sec				
	Dimensions		225(W) x 46(H) x 215(D) mm		430(W) x 55(H) x 293(D) mm		
	Weight (without HDD / DVD writer)		0.77kg	0.82kg	2.4kg		
	Adaptor		Input: 100 ~ 240V, Output: 12V 3A		Input: 100 ~ 240V, Output: 12V 6A		
	Power Consumption		36W		72W		

CMS Installation And Usage Guide

1. CMS Installation

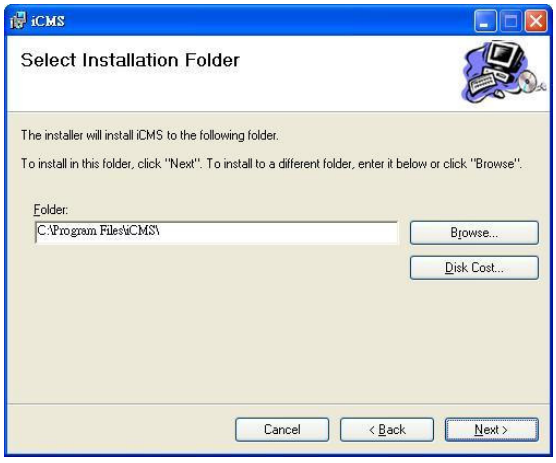
1.1. System Requirements:

- Intel Pentium 4 processor or equivalent.
- Microsoft Windows Vista; Windows XP; Windows 2003 Server.
- 512MB RAM or above.
- 20MB HD space. Recording and image capturing require extra space for storage.
- VGA Card needs to support DirectX9 and function well while running it. Please refer to Note 1 on page 39.

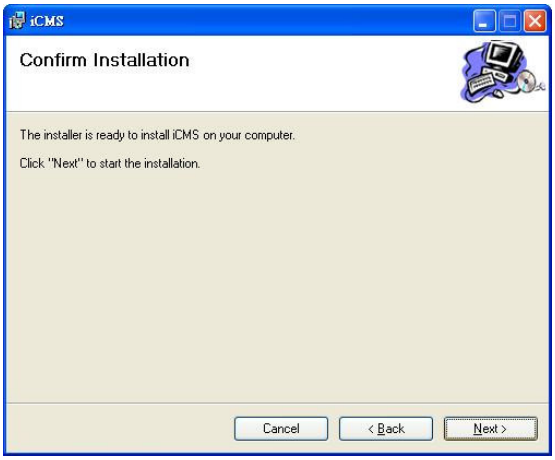
1.2. Installation

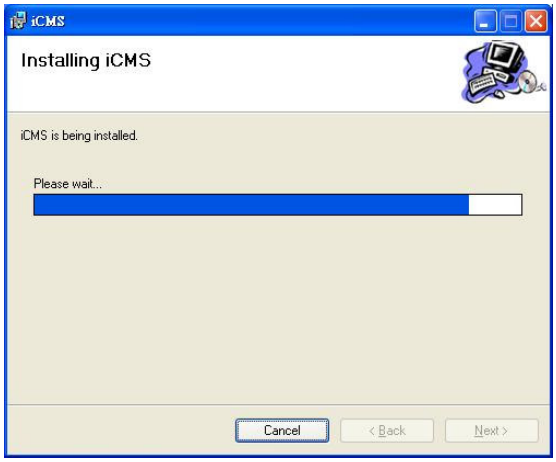
1. Run icms.exe from CD provided.
2. Select "**Next**", and then select "**Browse**" to change installation path if needed. To check available space on hard disk, please select "**Disk Cost**" then please select "**Next**" to continue to the next step.

iCMS
Welcome to the iCMS Setup Wizard
The installer will guide you through the steps required to install iCMS on your computer.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel
< Back
Next >


iCMS
Select Installation Folder
The installer will install iCMS to the following folder.
To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".
Folder:
C:\Program Files\iCMS\
Browse...
Disk Cost...
Cancel
< Back
Next >

3. "**Confirm Installation**" window shows. Select '**Next'** to begin installation.


iCMS
Confirm Installation
The installer is ready to install iCMS on your computer.
Click "Next" to start the installation.
Cancel
< Back
Next >



4. Select '**Close'** to finish installation when the "**Installation Complete**" window shows.

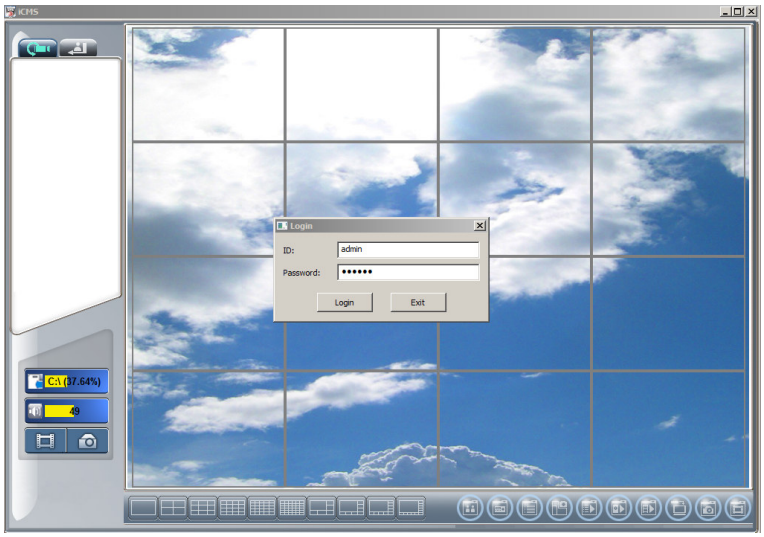
5. The following icon will be displayed on the desktop.

2. CMS Software

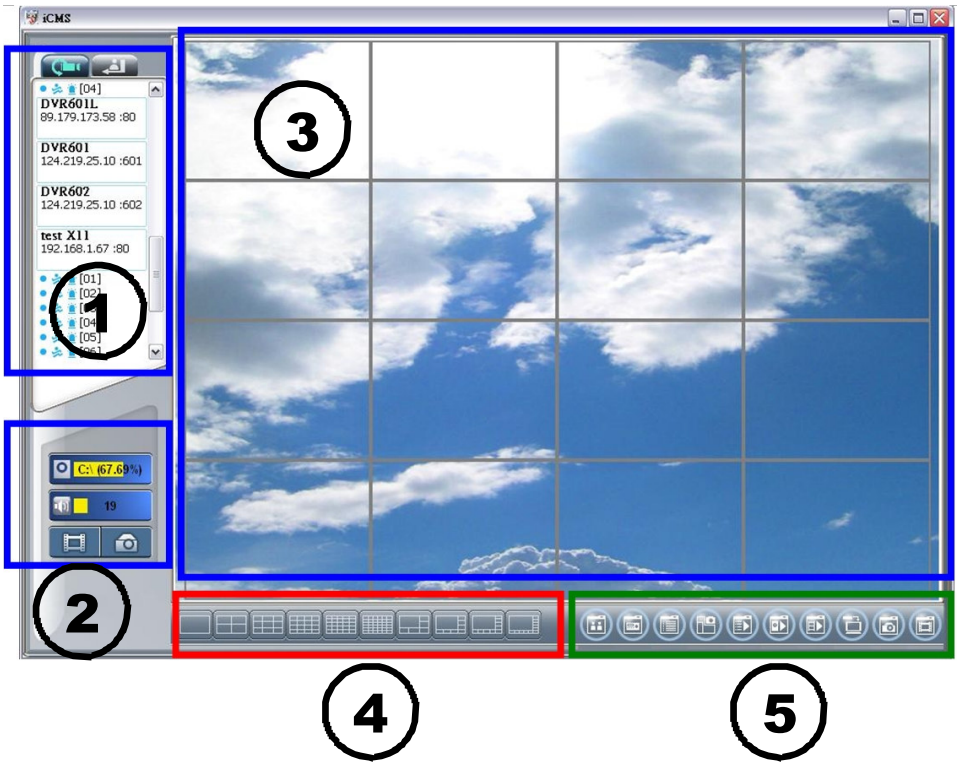
Log in to CMS with the default account and password (admin).

2.1. CMS Login and Environment

To enter CMS, the administrator's user name and password are required. The defaults are 'admin' and '123456'.



After login, the following image shows on your screen:

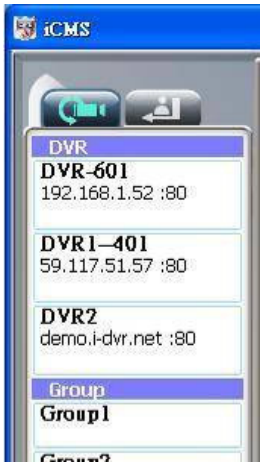


1	**DVRs, Groups & Events**	DVR information. See "3. DVRs, Groups & Events" for more details.
2	**PC Information and Control**	Local PC Information.See "4. Local PC Information and Control" for more details.
3	**Main Display**	Live image display area. See "5. Main Display" for more details.
4	**Display Modes**	Selection of display modes supported by CMS.
5	**Operation Bar**	See " 6. Operation Bar" for more details.

3. DVRs, Groups & Events

Icon	Description
	View list of logged in DVR / Group.
	View Logs: list all the event information from the DVR.

3.1. View DVR / Group List



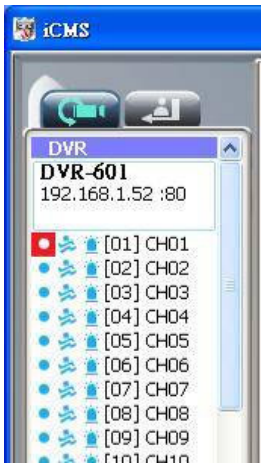
Single left click on '**DVR**' or '**Group**' to expand/collapse the entire DVRs and groups list.

On the DVR list, **double left click on a connected DVR to display its live images in the main display**.

On the Group list, **double left click on a group to show live images from the channels groups in the main display**. See "6.3. Group Administration" for further information.

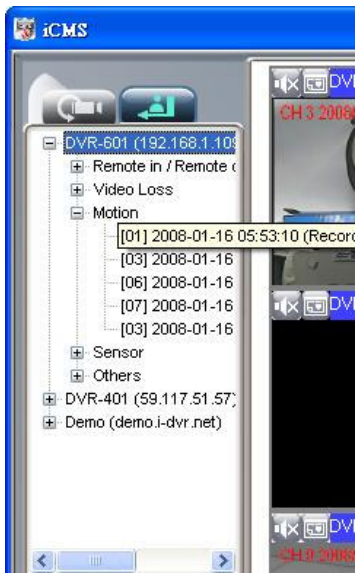
Left-clicking on a connected DVR will expand/collapse the status of its channels as below:

Icon	Description
	Video Loss
	Motion Detected
	Sensor Triggered



3.2. View Event Logs

In this window the operator can view all the events of a DVR: Remote in/Remote out, Video Loss, Motion, Sensor, Power Reset, Key Lock, Key Unlock, HD Full.



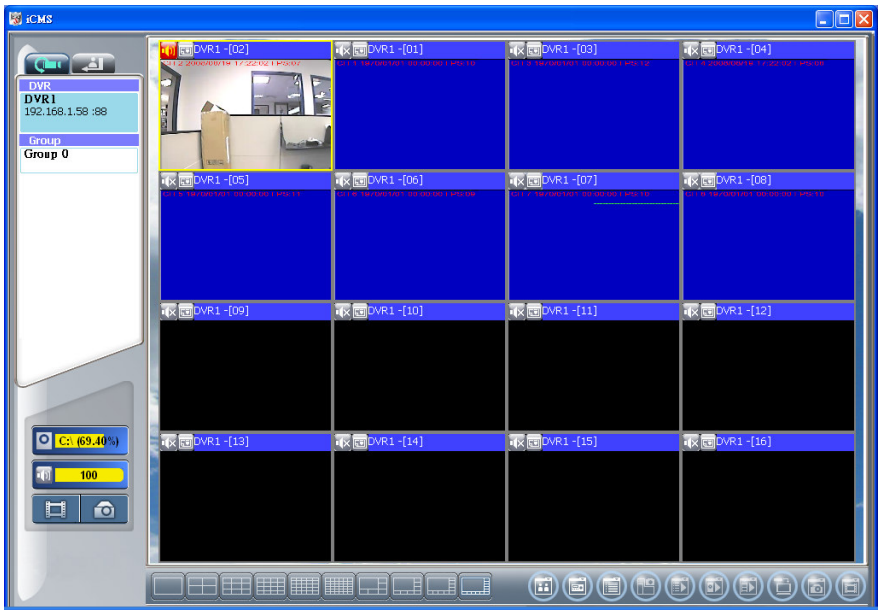
4. Local PC Information and Control

Located at the left lower corner of the screen:

Icon	Function	Description
	HDD info	Shows the percentage of available space.
	Recording Directory	Allows the operator set the recording directory. (Default is C:\Program files\iCMS)
	Recording Cycle	Allows the operator set the capacity size of the recording space locally (minimum is 10MB).
	Volume	Allows the operator adjust the PC volume or playback volume control bar.
	Recording	Record live images to local drive.
	Snapshot	Save snapshot to local drive.

5. Main Display

The main display area is where the live images are displayed. You can drag to change the location of each channel and turn on/off audio signal with one mouse-click.



5.1. Audio Control

In live mode, you can turn on/off the audio signal of Ch1~Ch4:

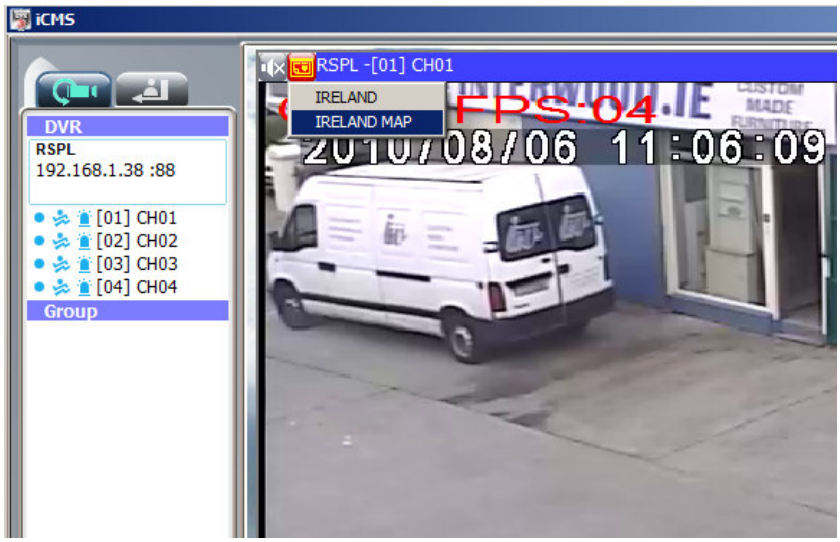
Audio signal is On

Audio signal is Off

Turn on/off by clicking on the graphical icon. Please note, only one channel's audio signal can be turned on at any one time.

5.2. eMAP Display

In Live mode, pressing will display the e-MAP drop-down menu. If the channel has been set up to use e-MAP, the menu will show all the e-MAP titles that have been given to this channel; otherwise, "No eMaps" will be displayed.



5.3. PTZ Control

In the main display, right clicking on a camera will display the PTZ control panel.

Icon	Description
8 direction key	Rotate the PTZ.
	ZOOM+ : Zoom in.
	ZOOM- : Zoom out.
	FOCUS+ : Focus in.
	FOCUS- : Focus out.
Set PTZ Preset	Set up 16 preset N.
Goto PTZ Preset	Move to specific preset N.
	Activate auto preset tour.
PTZ Sensitivity	Set up PTZ sensitivity.
	Set up the “start” and “end” position of live scan.
	Activate the line scan.
B	Adjust Brightness.
C	Adjust Contrast.
S	Adjust Sharpness.

6. Operation Bar

10 operations listed as below:

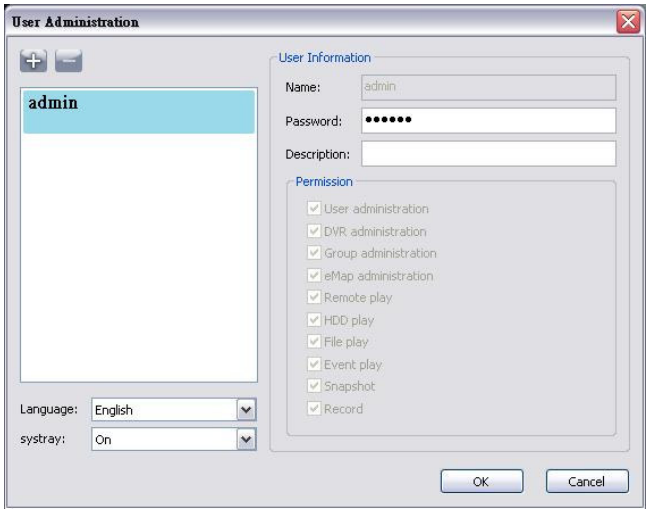
Icon	Description
	User Administration. Please see “6.1 User administration”.
	DVR Administration. Please see “6.2 DVR Administration”.
	Group Administration. Please see “6.3 Group Administration”.
	eMap Administration. Please see “6.4 eMap Administration”.
	Remote Playback. Please see “6.5 Remote Play”.
	HDD Playback. Please see “6.6 HDD Playback”.
	File Playback. Please see “6.7 File Playback”.
	Event Playback. Please see “6.8 Event Playback”.
	Snapshot Data. Please see “6.9 Snapshot Data”.
	Recording Data. Please see “6.10 Recording Data”.

6.1. User Administration

Before the CMS can be used on a PC, user accounts should be added with proper authority. Each user should also be assigned a password and optionally a description. If a user does not have certain authority assigned, he/she will not be able to operate the corresponding function on the Operation Bar. The default setting is that no authority is assigned. The administrator should assign proper authority to each user. These user accounts can be deleted or edited later on.

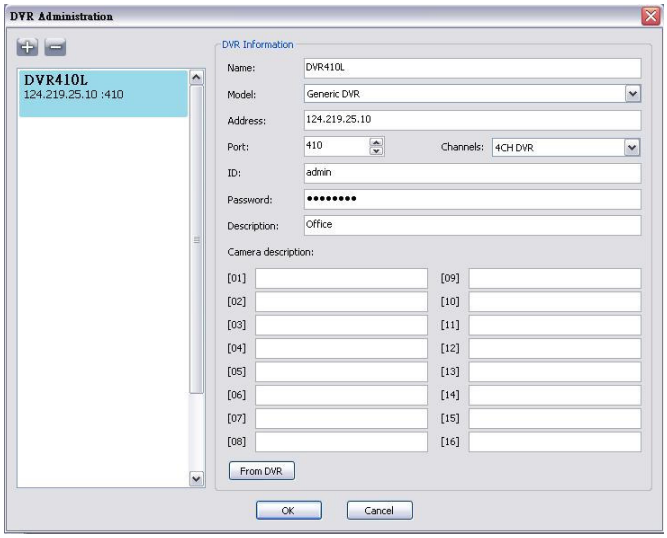
Select “**OK**” to save the setup.

Icon	Description
	Add a user account. The default setting is that no authority is assigned.
	Delete a user account.
Language	Switch display language
systray	Enabling systray will allow the user to minimize the program to the lower toolbar



6.2. DVR Administration

This is where the operator adds, deletes, or edits DVRs with the CMS software.



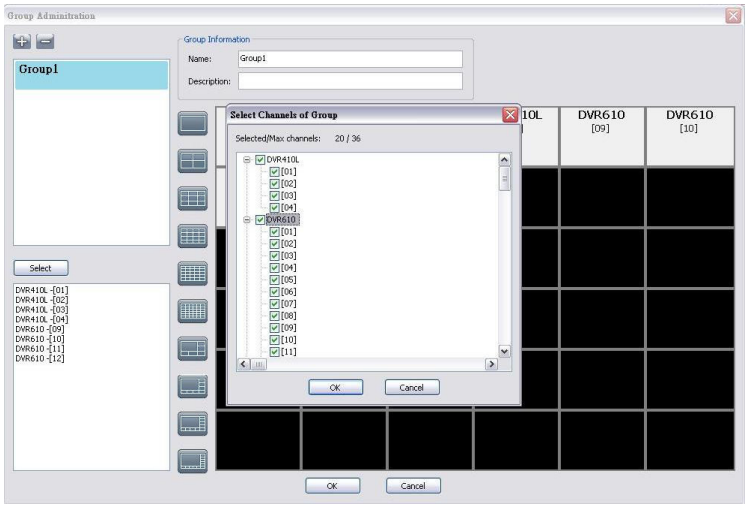
- **Name:** DVR Name (Unique)
- **Model:** DVR Model
  - **Generic:** For General Models
  - **Generic MainStream:** For DualStream Model
  - **DUAL SDVR:** For MPEG4 2U Models
- **Address:** DVR IP Address
- **Port:** DVR Network Port
- **Channel:** DVR Camera Number
- **ID:** DVR Login Account
- **Password:** DVR Login Password
- **Description:** Other Description
- **Camera Description:** Camera Description
- From DVR: Load Camera names from DVR

6.3. Group Administration

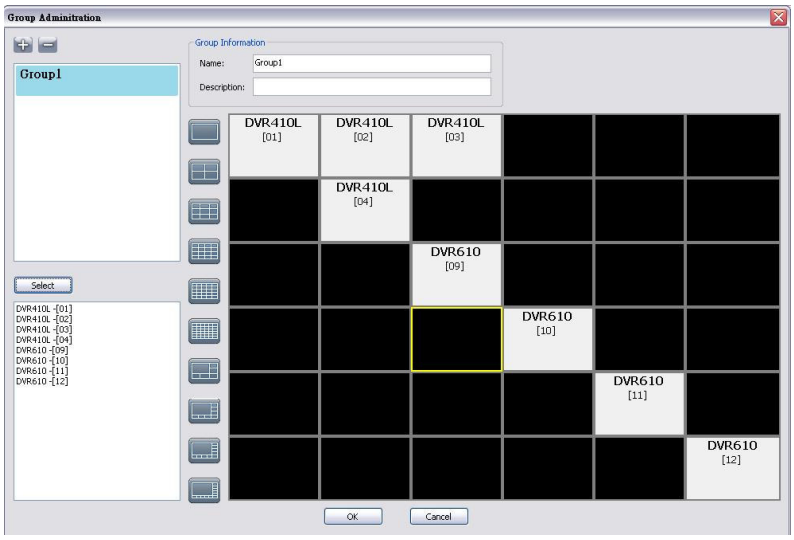
This allows the operator to select video channels from one or many DVRs and assign them to a group. This function allows the operator to monitor and manage channels from multiple DVRs easily and flexibly.

Steps:

1. To add a group, enter a name and description.
2. Click 'Select' which will bring up a new window.
3. Select the specific channels that you'd like to be included in the group. To include all channels from the DVR, just check the DVR (36 cameras can be assigned to a group).



4. Click “**OK**” to confirm the selection.
5. Select a display / division window for the group.
6. Drag the channel from the lower left panel into the preferred display location.
7. Click “**OK**” to save setup.

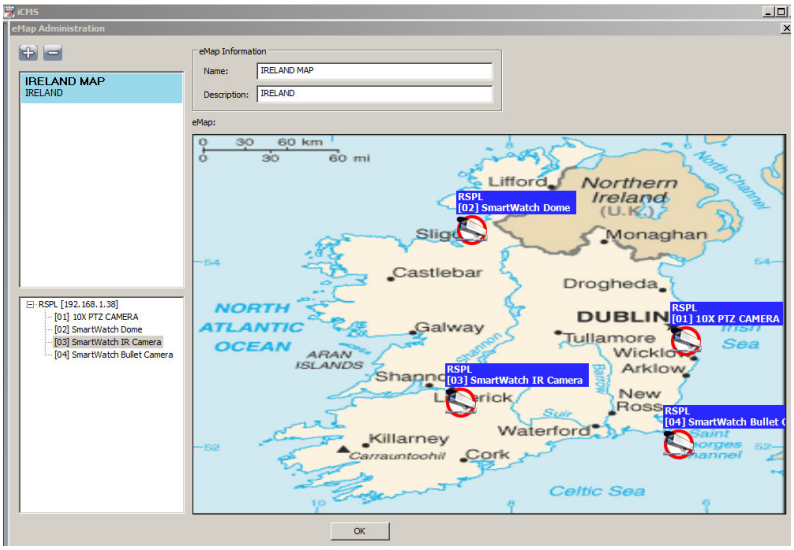


6.4. eMAP Administration

An eMap can be configured if geographical locations are relevant. An eMap is also very convenient if a customer has many sites in remote locations.

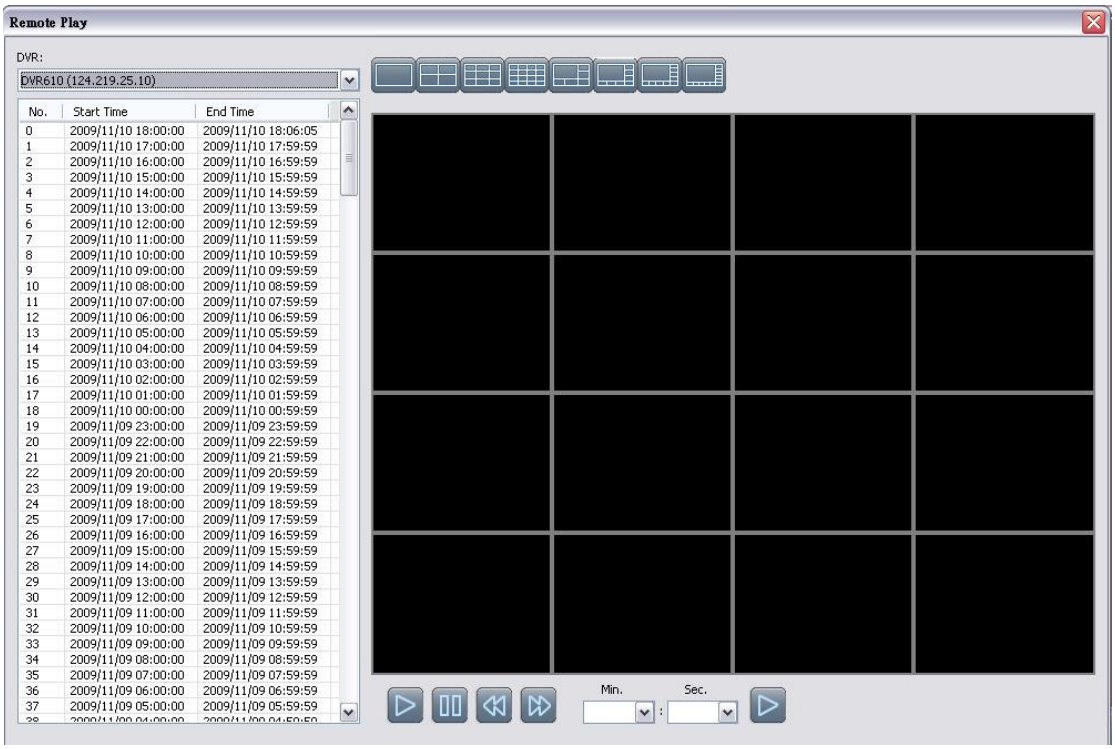
Steps:

1. Click and a path for the picture will be requested.
2. Select the required map, click OK and the map will be displayed in the right panel.
3. Drag channels from the left lower corner onto the required map location.
4. To delete a channel already on the picture, right click the channel and click ‘Remove’.
5. Click “**OK”** to save.



6.5. Remote Play

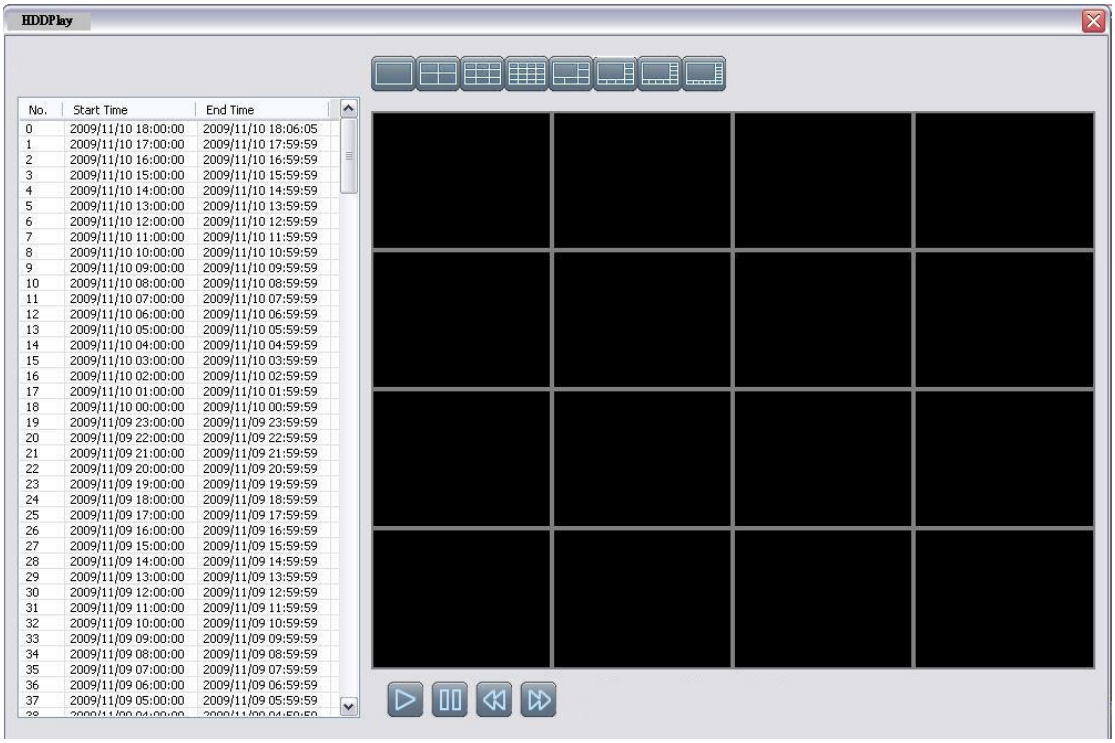
Select remote play to view video images from a remote DVR.



Icon	Description
	Start playing.
	Pause.
	Rewind.
	Fast forward.
	Select how many minutes / seconds are needed for viewing. Press the right button to start playing

6.6 HDD Playback

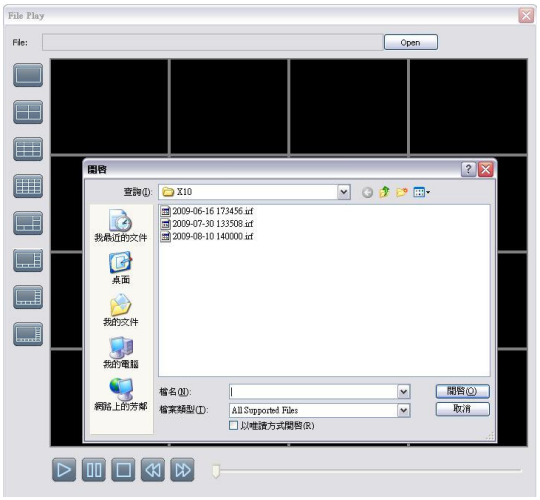
The operator can play back data from a HDD connected to the CMS.

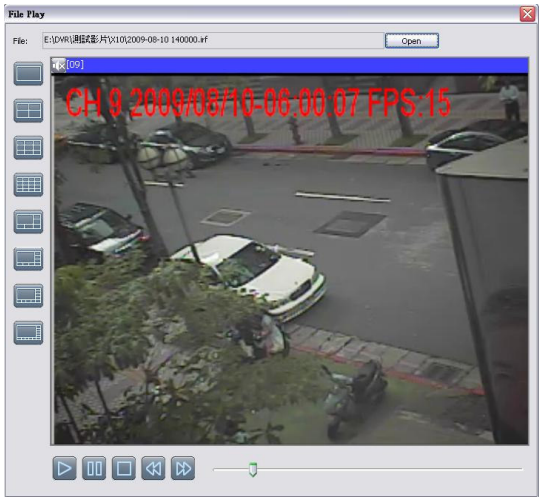


`

6.7 File Playback

The operator can playback recorded .irf files by using the “File Play” option in CMS.



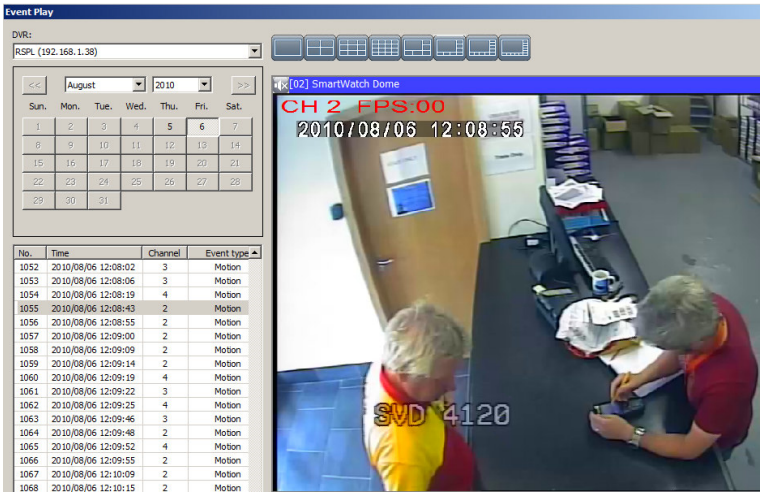


Icon	Description
	Start Playback.
	Pause.
	Stop playback.
	Rewind.
	Fast forward.

6.8 Event Playback

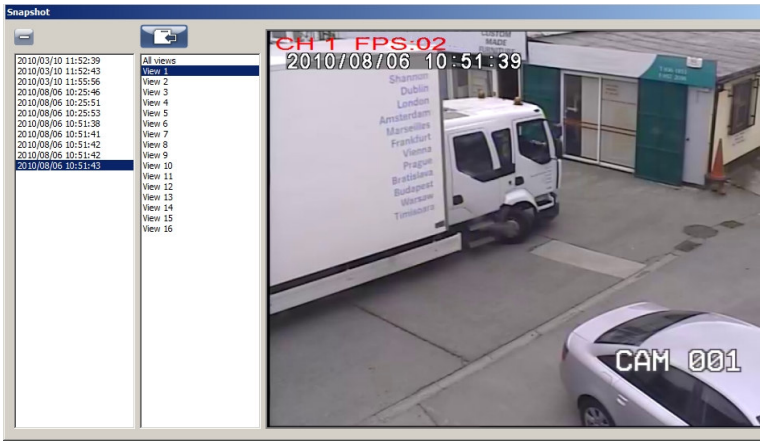
Event recordings from the DVR can be played back on the CMS software.

Steps:
1. Select the required DVR and display mode.
2. Select the required date.
3. Double click an event and play back will start.



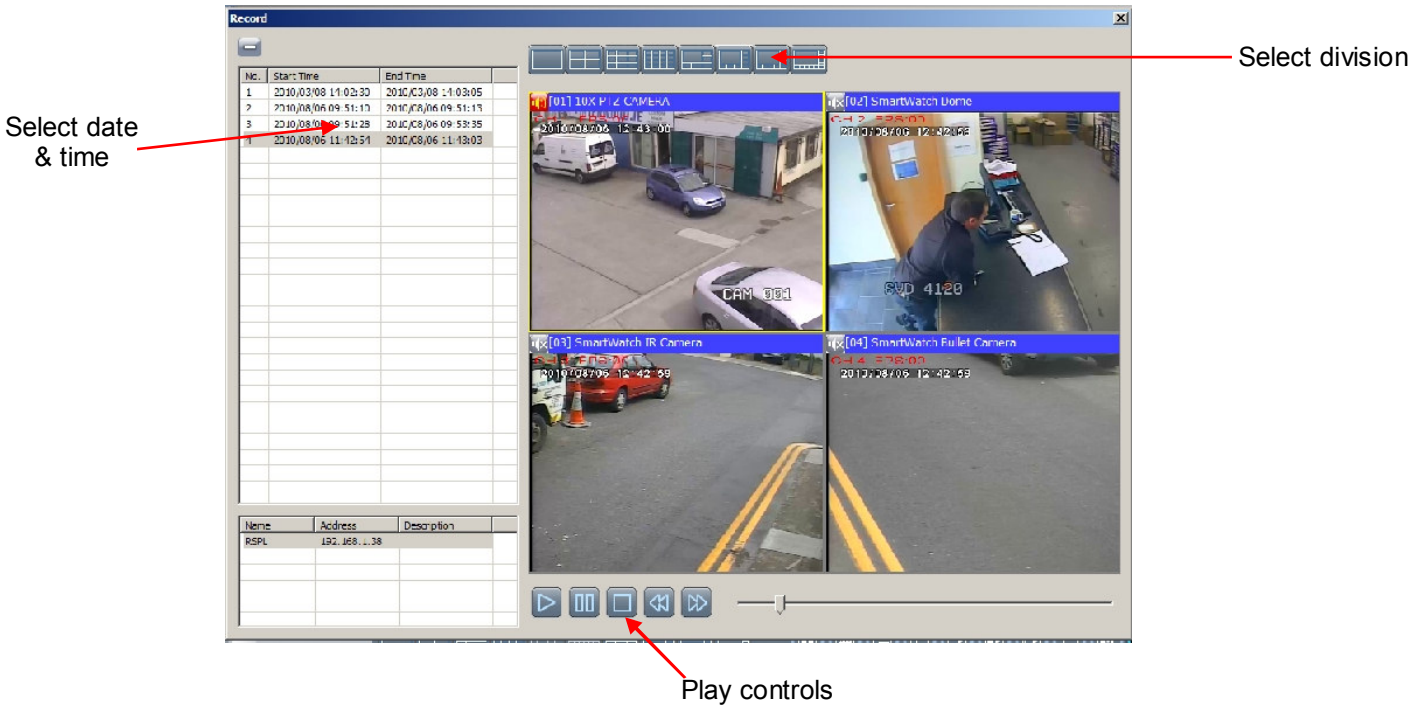
6.9 Snapshot Data

The operator can view all snapshots taken in the CMS software. From here snapshots can be reviewed or deleted.



6.10 Recording Data

The operator can play back recorded data that has been recorded from the DVR to the local CMS HDD.



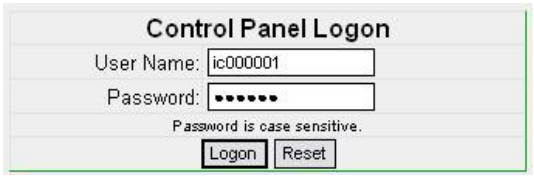
Appendix 1: I-DVR.net Registration

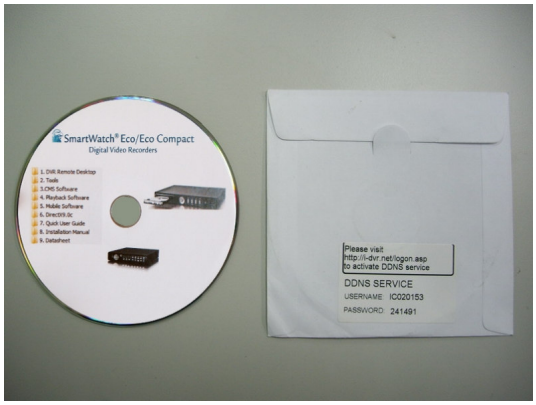
DDNS Registration on I-DVR.NET

Packed with each DVR is a sticker which shows account information including a username and password that allows users to login to I-DVR.NET for registration.

To register your DVR on I-DVR.NET, please follow the steps shown below.

Step 1:
Open IE browser and enter “http://i-dvr.net” in the address bar. The “Control Panel Logon” dialog box will appear. Enter the username and password as provided on the sticker and press, “Logon”.



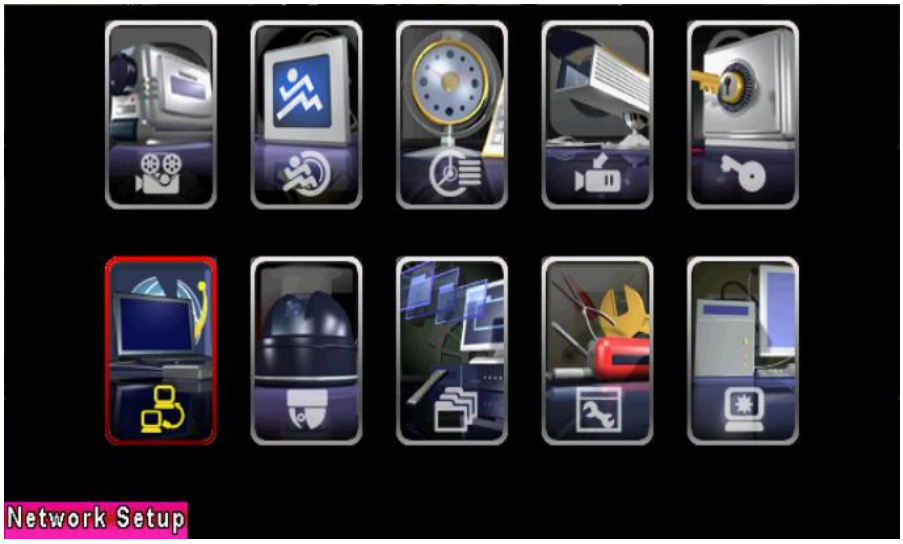


Step 2:
After logging in successfully, enter a host name. For example, using ‘smartwatch’ as the host name will make the address ‘smartwatch.i-dvr.net’. Now enter the current IP address of the DVR.

If the DVR IP address changes, the address will be updated here. Press, “F5: Refresh” to update the DVR’s IP address

Step 3:
When you hit ‘insert’, the screen will display “insert succeed”.

Step 4:
Enter DVR →Main Menu → Network Setup → DDNS. Activate DDNS functions and input related information.



Enable DDNS

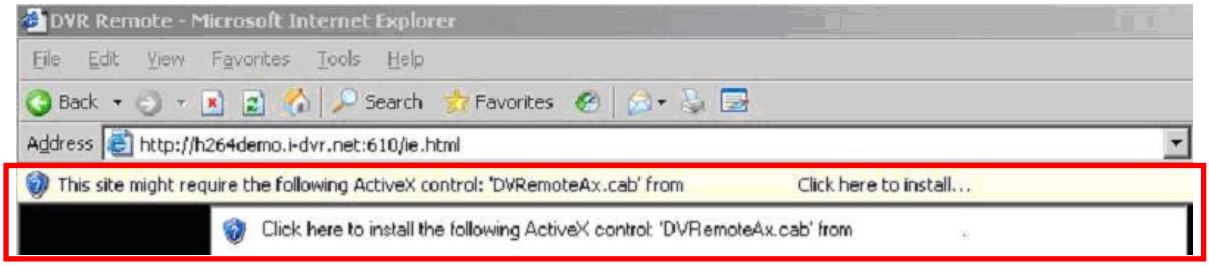
As per CD

Step 5:
Back to the i-dvr.net, on this page by pressing "F5: Refresh", IP will automatically be updated with the latest IP address.

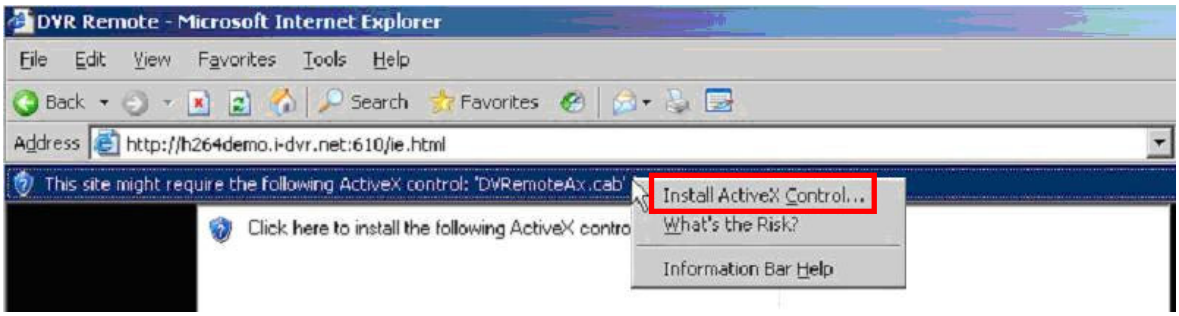
Appendix 2: Remote Monitoring IE ActiveX Control Installation Instruction

When using IE for remote monitoring for the first time, IE ActiveX Control needs to be downloaded.

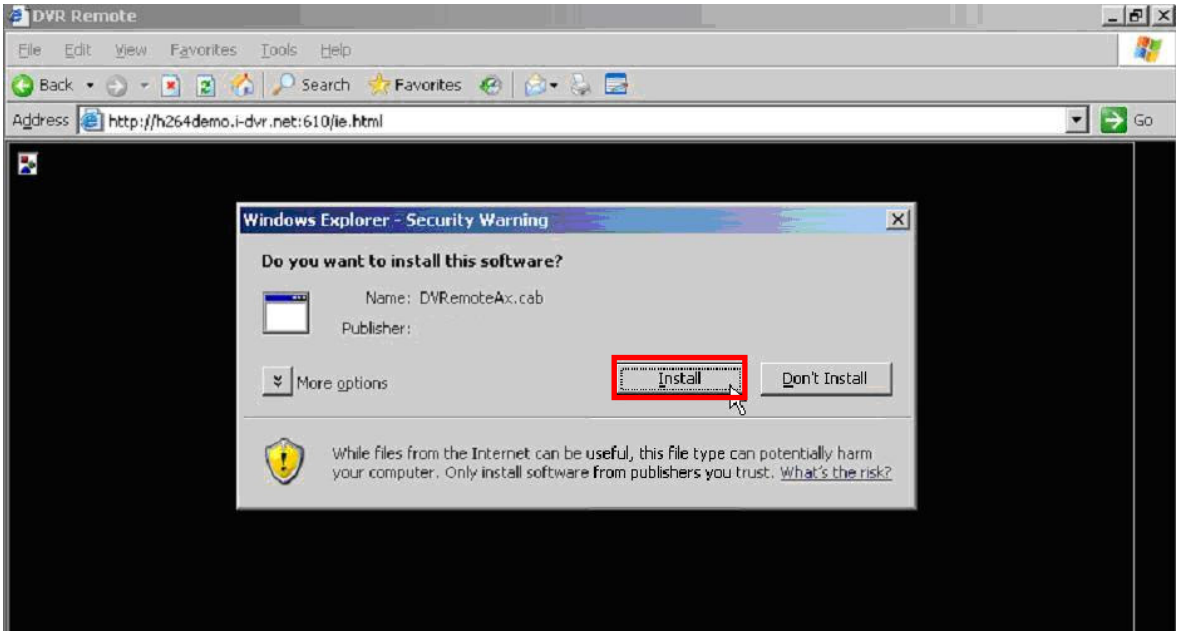
1. When remote monitoring on IE for the first time, an alert message occurs “Install ActiveX control” on the tool bar.


DVR Remote - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://h264demo.i-dvr.net:610/ie.html
This site might require the following ActiveX control: 'DVRemoteAx.cab' from Click here to install...
Click here to install the following ActiveX control: 'DVRemoteAx.cab' from

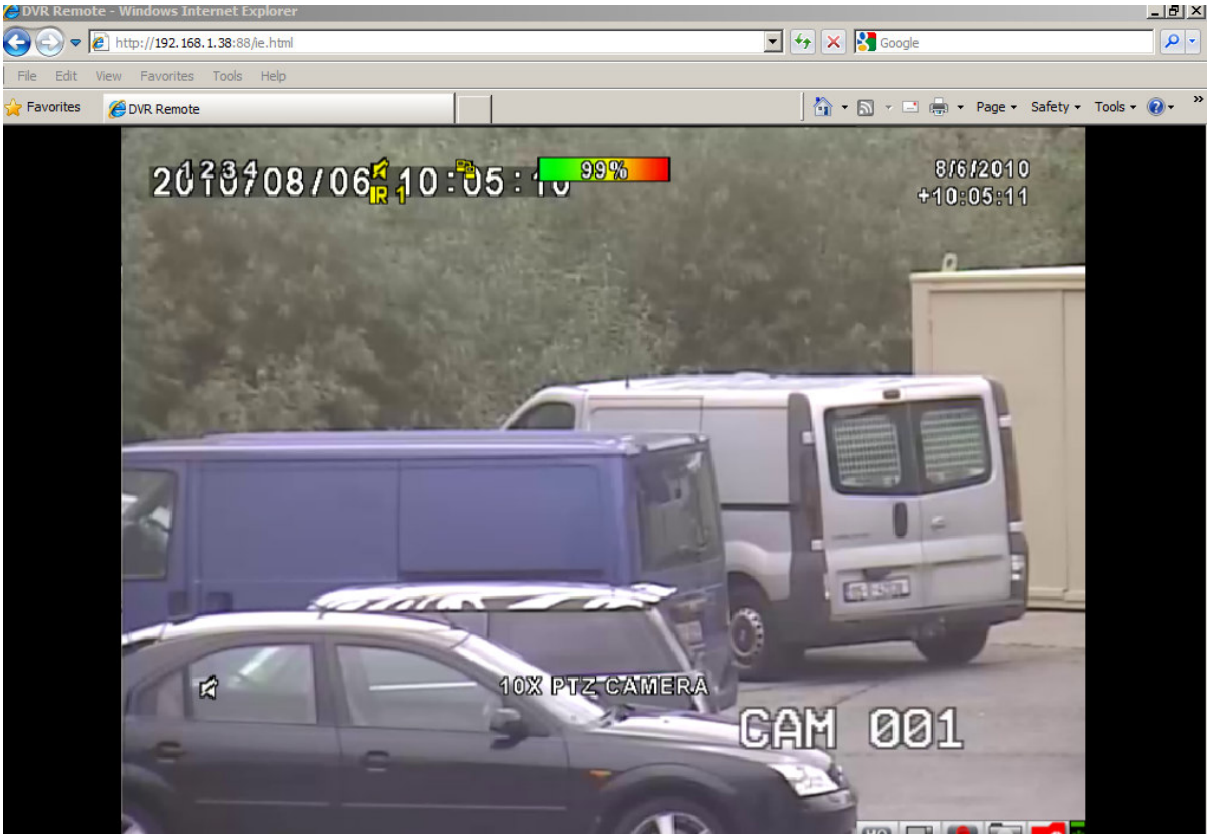
2. Click at this alert message and select “Install ActiveX Control”


DVR Remote - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://h264demo.i-dvr.net:610/ie.html
This site might require the following ActiveX control: 'DVRemoteAx.cab'
Click here to install the following ActiveX contro
Install ActiveX Control...
What's the Risk?
Information Bar Help

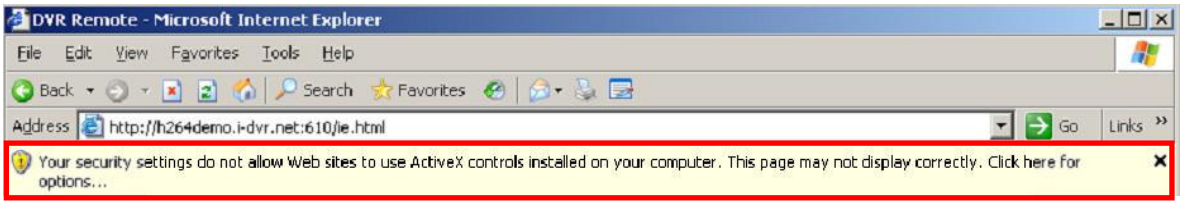
3. “Do you want to install this software” alert pops up. Select “Install”


DVR Remote
File Edit View Favorites Tools Help
Back Search Favorites
Address http://h264demo.i-dvr.net:610/ie.html
Go
Windows Explorer - Security Warning
Do you want to install this software?
Name: DVRemoteAx.cab
Publisher:
More options
Install
Don't Install
While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust. What's the risk?

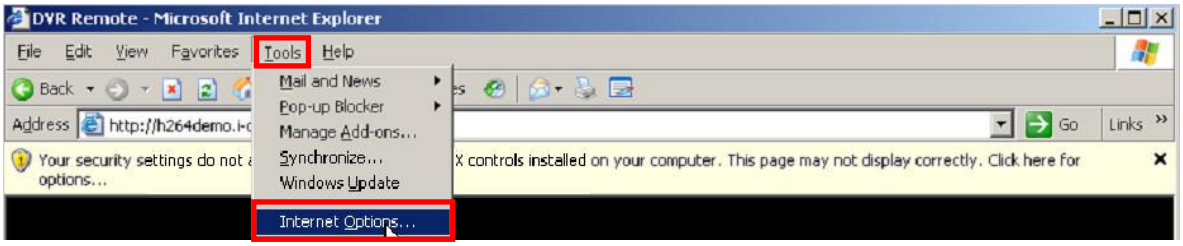
4. After installation, IE remote monitoring image appears.



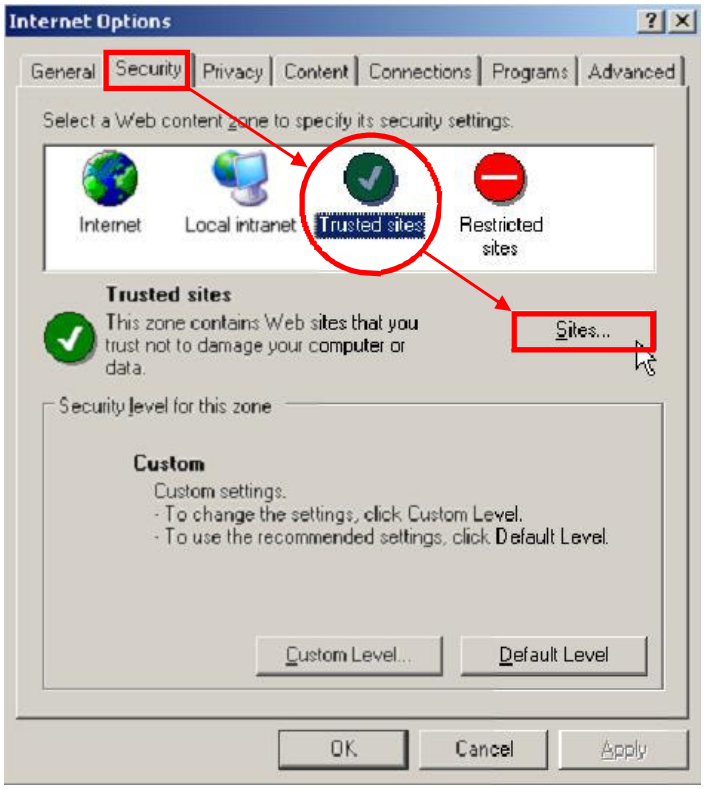
5. If message, “Your security Settings do not allow web sites to use ActiveX controls installed on your computer.” pops on when logging in, please follow the next instruction.


DVR Remote - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://h264demo.i-dvr.net:610/ie.html
Go Links
Your security settings do not allow Web sites to use ActiveX controls installed on your computer. This page may not display correctly. Click here for options...

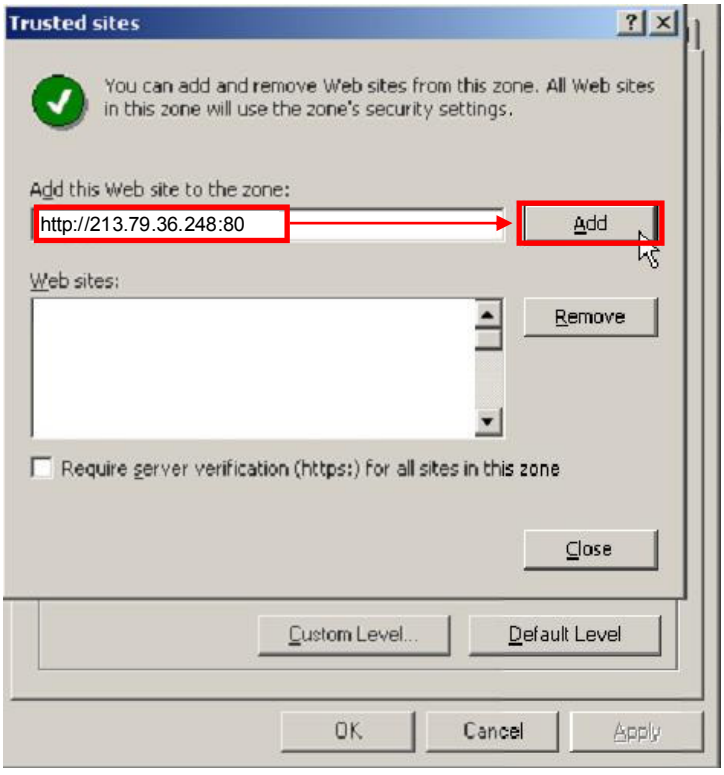
6. First select “Tools” on the tool bar and then select “Internet Options”



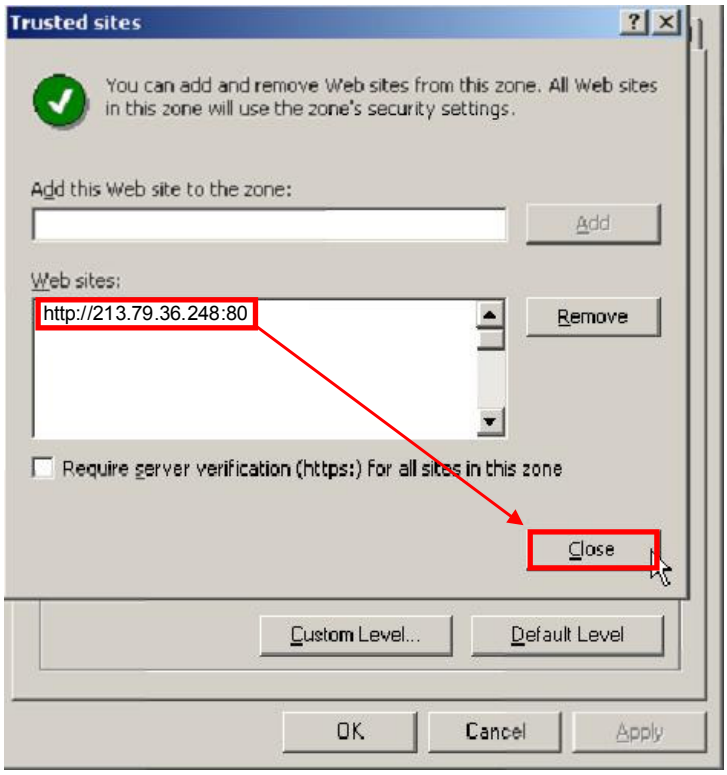
7. Select Security →Trusted Sites → Sites



8. Enter DVR address (This address is only for demonstration. Please use the address depends on the setup of on-site DVR.) into the blanks shown in picture, and then press “add.”



9. Newly added website will appear at the trusted web sites list. Press close.



10. Go back to IE window, press refresh button or F5.

DVR Remote - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://h264de
Refresh
net:610/ie.html
Go
Links
Your security settings do not allow Web sites to use ActiveX controls installed on your computer. This page may not display correctly. Click here for options...

SmartWatch®